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BIRDWATCHERS' SOCIETY OF ANDHRA PRADESH

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For information contact:

Honorary Secretary, Birdwatchers' Society of Andhra Pradesh, P.O. Box 45, Banjara Hills, Hyderabad 500034, India.

E-mail: aasheesh@vsnl.in

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Editors: Aasheesh Pittie & Siraj A. Taher
Illustrations: Sachin Jaltaré

Papers, short-notes, *etc.*, for *Mayura* should be sent to the Honorary Secretary, Birdwatchers' Society of Andhra Pradesh, PO Box 45, Banjara Hills, Hyderabad 500034, India. Or E-mail: aasheesh@vsnl.in

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A REVIEW OF BIRDING NOTES FROM ANDHRA PRADESH, KARNATAKA, KERALA, MAHARASHTRA AND TAMIL NADU—1997[1]

AASHEESH PITTIE[2]

Introduction

The present paper is a collation of selected records from the monthly column entitled 'Birding Notes', in *Pitta* (Pittie, 1997a-c, g, h), the bulletin of the Birdwatchers' Society of Andhra Pradesh. It covers numbers 74 to 80 of that Bulletin, for the period June-December 1997.

'Birding Notes' is a column that publishes interesting and significant bird sightings and bird behaviour like breeding, feeding, migration, *etc.*, in a telegraphic format. This format conveys maximum information using minimum space. It is based on the premise that birdwatchers keep notes of such avian activities in their diaries during field trips, but the notes being *ad hoc* in nature, they are seldom compiled and published. The column gives birders an opportunity to publish their notes as well as collects basic contemporary information about birds on a monthly basis.

The larger aim of the project is to collate annually all reported breeding records of birds. Besides this, significant populations (congregations) and first and last dates of migration are also compiled. Initially it may seem that individual or isolated records of common species are quite pointless. But it is felt that as participation builds up, interesting data about large gatherings, local movements, breeding patterns and distribution will emerge. This is the first time that such an exercise has been initiated in India. Its success depends upon the cooperation and participation of the country's birding fraternity.

Methods

The idea of this 'project' was mooted through popular articles in Indian publications (Pittie, 1997d-f), explaining the rationale behind it to Indian birdwatchers. Referees were selected from various states to scrutinize all records except those of breeding birds, if these were within the known breeding season as per the *Handbook* (Ali & Ripley, 1987). The breeding status of species, accepted for publication, was divided into three criteria: possible breeding, probable breeding and confirmed breeding (Lavers, 1997), based on various aspects of the bird's visible behaviour.

The nature of this participatory project is such, that all data sent in by contributors, though refereed where necessary, is assumed to be factual and

[1] Received for publication: December 1997.
[2] *Address for communication*: 8-2-545 Road No. 7, Banjara Hills, Hyderabad 500034, India.
E-mail: aasheesh@vsnl.in

accurate. There are some assumptions that arise and a few precautions that readers will have to keep in mind when trying to analyze the data given below.

1. The project covered 5 States during 1997. These are Andhra Pradesh, Karnataka, Kerala, Maharashtra and Tamil Nadu.
2. The Systematic List below is a selection of species from those published in *Pitta*. Complete details regarding other species are available in copies of that Bulletin (Pittie, 1997a-c, g, h).
3. These notes do not in any way reflect the status of a species or bird population at a site, district or state *in totality*. They are single point random observations and should be treated thus.

Results

ABBREVIATIONS AND SYMBOLS

AP=Andhra Pradesh; KA=Karnataka; KE=Kerala; MR=Maharashtra; TN=Tamil Nadu; *c*=approximately; ☁=Globally threatened or near-threatened species as per Kazmierczak (2000).

SYSTEMATIC LIST

In the following list, English names (generally) and Systematic listing follow Ripley (1982) and Scientific Nomenclature follows Inskipp, Lindsey and Duckworth (1996). A gazetteer is provided in Appendix 1.

Little Grebe *Tachybaptus ruficollis* (Pallas), 1764

AP: The population on Hussain Sagar (Hyderabad city) fluctuated as follows: 500 birds were counted on 25 May, 50 on 17 September and, 200 on 4 November.

MR: 200 birds on 27 November at Pimpalgaon Reservoir.

TN: 500 birds were present on 31 August at Pandravedu Eri, Pallipat Taluk.

☁**Grey Pelican** *Pelecanus philippensis* Gmelin, 1789

Confirmed breeding in three states during December.

AP: *c.*350 birds at Nelapattu Bird Sanctuary on 15 December and *c.*400 on 27 December. Nesting in progress. Some pairs building while others, incubating.

KA: *c.* 200 birds at Kokrebellur Bird Sanctuary on 18 December. Nesting in progress (only on *Ficus* sp.). Some pairs building while others, incubating. 1 bird at Madurantakam Tank on 21 August. 1 observed in Mysore City on 16 December. 2 adults and 3 immature birds in Mysore City on 23 December.

TN: 4 birds on 31 August and 9 on 21 September on Poondi Reservoir. 24.xii: *c.*60 at Vedanthangal on 24 December. Breeding in progress. Nests under construction by some pairs and, incubation in progress by some.

Cormorants Phalacrocoracidae

Cormorants can be tricky to identify if at a distance and at such times it is best to list them under their family if one is not sure of the species. Confusion often prevails between the Indian Cormorant *Phalacrocorax niger* and the Indian Shag *P. fuscicollis*.

TN: 200 birds (sp?) on Madurantakam Tank on 21 August and, *c.* 1,000 on Poondi Reservoir on 31 August.

Cormorant *Phalacrocorax carbo* (Linné), 1758

The white belly of first year birds becomes progressively browner and darker till they "apparently" attain full adult breeding plumage in the fourth year (Ali & Ripley, 1987). Therefore, the presence of birds with such a plumage does not necessarily mean that they are current year fledglings.

AP: 3 adults and 1 white-bellied immature on Hussain Sagar on 25 May, 30 in ICRISAT Asia Centre on 28 May and, adults and white-bellied immature birds (not counted) in ICRISAT on 2 November. Birds breed in ICRISAT though it is not recorded here.

KA: *c.* 400 on 18 and 21 December at Ranganathittu Bird Sanctuary. Birds in various stages of nesting. Some incubating, some with young. Confirmed breeding.

Indian Shag *Phalacrocorax fuscicollis* Stephens, 1826
The status of this species in India seems uncertain, as it is easily confused with the Little Cormorant and vice versa, thus making every *accurate* identification important and, worthy of a head count, breeding status, *etc.*
AP: *c.*700 birds on 15 December at Nelapattu Bird Sanctuary. Nest building in progress. Some pairs incubating. Confirmed breeding.
TN: 300 on 31 August at Pandravedu Eri, Pallipat Taluk. 1,500 on 24 December at Vedanthangal, including Little Cormorant. Nesting. Confirmed breeding.

Little Cormorant *Phalacrocorax niger* (Vieillot), 1817
AP: 100 on 28 May at ICRISAT Asia Centre.
TN: 1,500 on 24 December including Indian Shag (see above) at Vedanthangal. Birds breeding. Confirmed breeding.

Darter *Anhinga melanogaster* Pennant, 1769
KA: *c.*6 birds on 23 December in Mysore City. 12 on 18 and 21 December in Ranganathittu Bird Sanctuary. 5 on 21 August at Vedanthangal. Nesting in progress at Vedanthangal, where 4-5 nests with eggs were seen on 24 December. Confirmed breeding.

Grey Heron *Ardea cinerea* Linné, 1758
TN: *c.* 210 birds on 21 August at Madurantakam Tank. Breeding in progress on 24 December at Vedanthangal. Confirmed breeding.

Pond Heron *Ardeola grayii* (Sykes), 1832
TN: 1 bird in breeding plumage on 15 August at Guindy National Park. 350 birds on 31 August at Pandravedu Eri, Pallipat Taluk. Small flocks heading south on 19, 21 and 28 October and on 1 November in Santhome, Chennai. Suspected local movement coinciding with the onset of NE and SW Monsoon.

Cattle Egret *Bubulcus ibis* (Linné), 1758
AP: Birds in breeding plumage on 6 May at Hussain Sagar. Seen scavenging fish scrap.
TN: *c.*100 on 3 October at Santhome, Chennai. Birds flying south, suspected local movement coinciding with the onset of NE and SW Monsoon. Same on 1 November.

Chestnut Bittern *Ixobrychus cinnamomeus* (Gmelin), 1789
Bitterns are such shy creatures that they are more often overlooked than not. Therefore every record becomes important.

TN: A few birds on 13 and 27 July and, *c.*10 on 24 August at Velacherry Marshes. Less common here than Yellow Bittern (*q.v.*).

Yellow Bittern *Ixobrychus sinensis* (Gmelin), 1789
TN: A few birds on 13 and several on 27 July at Velacherry Marshes. Seem common on 24 August, with adults and several immature birds seen in the open at Velacherry Marshes.

Black Bittern *Dupetor flavicollis* (Latham), 1790
TN: 1 bird in flight on 28 September at Chembarambakkam Tank.

Painted Stork *Mycteria leucocephala* (Pennant), 1769
AP: 9 birds on 28 May and 18 on 7 December at ICRISAT Asia Centre. 2,000 birds on 8 January at Veerapuram village. Nesting in progress on various water tanks around the village. Confirmed breeding.
TN: 15 birds on 21 August at Madurantakam Tank.

Openbill Stork *Anastomus oscitans* (Boddaert), 1783
The influx of birds in December at both Nelapattu and Vedanthangal indicates local movements by the species.
AP: *c.*100 birds on 5 July at Dindi Reservoir. 70 on 21 December at Ibrahimpatnam Tank. *c.* 200 on 15 December at Nelapattu Bird Sanctuary. Nesting in progress. On 27 December this number increased to *c.* 500 birds including 5 juveniles. 4-5 nests with eggs were also seen. *c.*100 on 16 August at Tada, Pulicat Lake. Confirmed breeding.
TN: *c.* 50 birds on 21 August in paddies at Vedanthangal. *c.* 400 on 24 December at Vedanthangal. Nesting in progress. Confirmed breeding.

White Ibis *Threskiornis melanocephalus* (Latham), 1790
AP: *c.* 50 birds on 15 December at Nelapattu Bird Sanctuary. Nesting in progress. Population increases to 300 birds on 27 December. A couple of nests with 2-3 young in each. Confirmed breeding.
TN: 12 birds in fields on 21 August at Vedanthangal and, 300 odd birds on 24 December. Nesting in progress. Confirmed breeding.

Glossy Ibis *Plegadis falcinellus* (Linné), 1766
Migrants augment the resident north Indian population in winter. Generally scarce in south India.
KA: 12 on 21 December at Mysore City.
TN: 120 on 24 December at Vedanthangal.

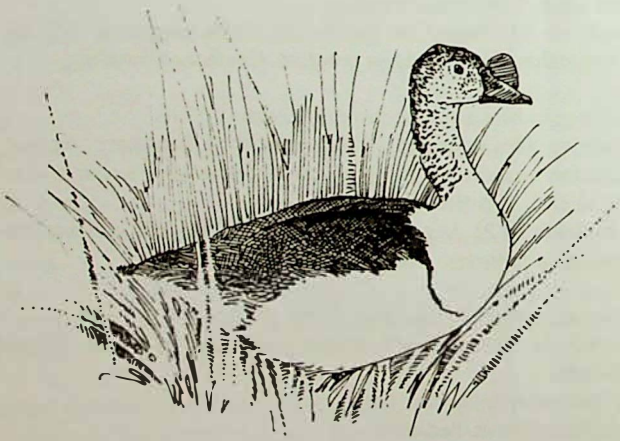
Spoonbill *Platalea leucorodia* Linné, 1758
TN: *c.* 40 on 21 August at Madurantakam Tank. 18 on 21 August flying over Vedanthangal and, *c.* 200 on 24 December. Nesting in progress. Confirmed breeding.

Flamingo *Phoenicopterus ruber* Linné, 1758
AP: *c.* 300 on 5 July at Dindi Reservoir. 2000 adults, 500 immature birds on 15 December and again on 27 at Pulicat Bird Sanctuary. *c.* 300 on 16 August at Tada, Pulicat Lake.
MR: 28 on 27 November at Pimpalgaon Reservoir.
TN: 34 on 21.August at: Madurantakam Tank.

Lesser Flamingo *Phoenicopterus minor* Geoffroy, 1798
AP: *c.* 100 on 15 December at Pulicat Bird Sanctuary.

Spotbill Duck *Anas poecilorhyncha* Forster, 1781
AP: *c.*140 on 16 August at Tada, Pulicat Lake. Roosting on Kongala Thitoo Island.
TN: *c.*100 on 28 September at Chembarambakkam Tank. *c.*120 on 21 August at Madurantakam Tank.

Garganey *Anas querquedula* Linné, 1758
TN: *c.*150 on 21 August at Madurantakam Tank. Birds in non-breeding plumage.



Comb Duck *Sarkidiornis melanotos* (Pennant), 1769
AP: 60 males on 28 May and 10 on 12 October at ICRISAT Asia Centre.

Pariah Kite *Milvus migrans* (Boddaert), 1783
AP: 1 nest *c.* 30' up an unidentified tree on 16 September at Banjara Hills. A bird carrying nesting material on 24 October at Mozamjahi Market. Probably breeding. This is however the time when birds breed here.

Shikra *Accipiter badius* (Gmelin), 1788
AP: A bird calling and displaying on 1 May at Banjara Hills. A bird displaying between 9-15 May at Jannaram Forest Division. Probably breeding.

White-eyed Buzzard *Butastur teesa* (Franklin), 1832
AP: 10 birds on one day between 9-15 May at Jannaram Forest Division, around a water tank near Udhampur in Indanpalli range. Such a congregation is unusual.
TN: 1 bird calling and displaying on 30 November at Nanmangalam Reserve Forest. Probably breeding. Ali & Ripley (1987) state that the breeding season is "chiefly between February and May, varying with locality."

Crested Hawk-Eagle *Spizaetus cirrhatus* (Gmelin), 1788
AP: Display flight and calls, 9-15 May, at Jannaram Forest Division. Probably breeding. Ali & Ripley (1987) state that the breeding season "in peninsular India overall November to April, chiefly January and February."

Greater Spotted Eagle *Aquila clanga* Pallas, 1811
AP: 1 immature on 16 November at ICRISAT Asia Centre.

Black Eagle *Ictinaetus malayensis* (Temminck), 1822
AP: 2 birds between 25-26 December at Sri Venkateshwara National Park.

Greyheaded Fishing Eagle *Ichthyophaga ichthyaetus* (Horsfield), 1821
KA: 1 on 18 December at Ranganathittu Bird Sanctuary.

White-backed Vulture *Gyps bengalensis* (Gmelin), 1788
AP: 12 between 23 and 29 August at Kondakarla Lake.

Hen-Harrier *Circus cyaneus* (Linné), 1766
AP: 1 male on 21 December at Ibrahimpatnam Tank.

Pale Harrier *Circus macrourus* (S.G. Gmelin), 1770
AP: 1 female on 2 November at ICRISAT Asia Centre. 1 male on 21 December at Ibrahimpatnam Tank.

Crested Serpent Eagle *Spilornis cheela* (Latham), 1790
Ali & Ripley (1987) record December-March as the breeding season of this species.
AP: Display and calls by a bird during 9-15 May at Jannaram Forest Division. Probably breeding.

Peregrine Falcon *Falco peregrinus* Tunstall, 1771
AP: 1 bird on 27 December at Pulicat Bird Sanctuary.
TN: 1 bird on 14 December at Guindy National Park.

Redheaded Merlin *Falco chicquera* Daudin, 1800
AP: 1 bird stooped at a Green Sandpiper *Tringa ochropus*, but was thwarted by a pair of Redwattled Lapwings *Vanellus indicus* on 16 July at ICRISAT Asia Centre. 2 birds were again observed here on 16 November. 1 male in the evening on 25 June at Kasu Brahmananda Reddy National Park. 2 birds on 23 November at Shamirpet Lake.

Red Spurfowl *Galloperdix spadicea* (Gmelin), 1789
AP: 3 on 19 October at Anantgiri, Vikarabad Mandal.

Painted Spurfowl *Galloperdix lunulata* (Valenciennes), 1825
AP: Seen in bamboo forest on 9 May at Jannaram Forest Division.

Grey Junglefowl *Gallus sonneratii* Temminck, 1813
AP: 2 adult females, 1 adult male on 15 May at Jannaram Forest Division. The cock was displaying to the hens. Probably breeding.

Common Peafowl *Pavo cristatus* Linné, 1758
AP: 1 male and 3 immature birds on 21 September at Kasu Brahmananda Reddy National Park. Confirmed breeding.

Bluebreasted Banded Rail *Gallirallus striatus* (Linné), 1766
AP: 1 bird in paddies on 23 July at ICRISAT Asia Centre 1.

Brown Crake *Amaurornis akool* (Sykes), 1832
AP: 1 bird in paddies on 16 July at ICRISAT Asia Centre 1.

Moorhen *Gallinula chloropus* (Linné), 1758
TN: Adult, immature and, juvenile seen on 24 August at Velacherry Marshes. Confirmed breeding.

Purple Moorhen *Porphyrio porphyrio* (Linné), 1758
AP: Adults and immature birds seen on 2 November at ICRISAT Asia Centre. Status, confirmed breeding.
TN: *c.*40 on 13 July at Velacherry Marshes. Many displaying under-tail coverts & vocalizing. Confirmed breeding.

Coot *Fulica atra* Linné, 1758
AP: *c.*1000 birds on 21 June at ICRISAT Asia Centre. One albino Coot among flock! Also seen on 11 June. *c.* 500 birds on 2 December at Madhapur, Jubilee Hills. 4 immature birds on 16 November at Rishi Valley. Confirmed breeding.
MR: *c.*100 on 27 November at Pimpalgaon Reservoir.
TN: *c.*100 on 21 August at Madurantakam Tank. *c.*5000 on 31 August and *c.*1000 on 21 September at Poondi Reservoir.

Lesser Florican *Sypheotides indica* (J.F. Miller), 1782
AP: 1 immature on 6 April at ICRISAT Asia Centre.

Pheasant-tailed Jacana *Hydrophasianus chirurgus* (Scopoli), 1786
AP: In May hundreds of birds were observed on Kondakarla Lake but on 23 August there were none. 6 birds in non-breeding plumage on 23 November at Shamirpet Lake. Birds observed on 28 December at Khanamet Tank were also in non-breeding plumage.
TN: *c.*30 adult and immature birds were observed on 24 August Velacherry Marshes. *c.* 50 birds on 21 September at Poondi Reservoir were in eclipse plumage.

Painted Snipe *Rostratula benghalensis* (Linné), 1758
AP: 1 female was seen chasing a male into some reeds on 25 May at Sanjivayya Park.

Black-winged Stilt *Himantopus himantopus* (Linné), 1758
AP: 52 birds including 8 immature birds were observed on 4 November at Hussain Sagar.

Avocet *Recurvirostra avosetta* Linné, 1758
AP: *c.*500 on 27 December at Pulicat Bird Sanctuary.
TN: 1 bird on 16-17 September at Adyar Estuary.

Stone Curlew *Burhinus oedicnemus* (Linné), 1758
AP: 1 nest with 2 eggs under a hedge on 4 July in Banjara Hills. Abandoned on 6th when nearby tree was blown over in storm. 2 adults and 2 immature birds were observed on 7 September Kasu Brahmananda Reddy NP. Confirmed breeding.

Great Stone Plover *Esacus recurvirostris* (Cuvier), 1829
KA: 25 on 18 and 21 December at Ranganathittu Bird Sanctuary.
TN: *c.*8 on 30 November at Velacherry Marshes.

Oriental Pratincole *Glareola maldivarum* J.R. Forster, 1795
Shown as a race of the Collared Pratincole *G. pratincola maldivarum* J.R. Forster, 1795, in the *Synopsis* (Ripley, 1982) this bird is now recognized as a full species. Hence its new name, Oriental Pratincole, is used here.
AP: 2 families comprising of 1 adult with 1 immature and, a pair with 3 immature birds on 21 June at ICRISAT Asia Centre. This is the first breeding record for Andhra Pradesh. Confirmed breeding.

Redwattled Lapwing *Vanellus indicus* (Boddaert), 1783
AP: 1 nest with 3 eggs on 21 June at ICRISAT Asia Centre. Bird sitting close on nest. Many such individuals seen all over the campus. Confirmed breeding.

Spotted Redshank *Tringa erythropus* (Pallas), 1764
AP: 2 birds of which one in breeding plumage on 6 April at ICRISAT Asia Centre.

Longtoed Stint *Calidris subminuta* (Middendorff), 1853
AP: 1 on 15 December at Pulicat Bird Sanctuary.

Dunlin *Calidris alpina* (Linné), 1758
AP: *c.* 32, including 4 in breeding plumage between 23-29 August at Kondakarla Lake.

Curlew Sandpiper *Calidris ferruginea* (Pontoppidan), 1763
AP: *c.* 20, including 2 in breeding plumage between 23-29 August at Kondakarla Lake.
TN: 1 on 30 November at Adyar Estuary.

Nilgiri Wood-Pigeon *Columba elphinstonii* (Sykes), 1833
TN: 1 bird on 16 December at Masinagudi.

Spotted Dove *Streptopelia chinensis* (Scopoli), 1786
AP: A pair constructing a nest on a rafter on 1 May in Hyderabad City. Another pair incubating 1 egg in nest on 10 May in Hyderabad City. Confirmed breeding.
TN: Display flights by birds on 12 October in Adyar Estuary. Display flights also on 23 November at Nammangalam Reserve Forest. Probably breeding.

Blossom-headed Parakeet *Psittacula cyanocephala* (Linné), 1766
AP: A family with 4 young with light grey heads, short tails and horny yellow upper and lower mandibles on 25 May at Sanjivayya Park. Confirmed breeding.

Redwinged Crested Cuckoo *Clamator coromandus* (Linné), 1766
TN: 1 bird on 14 December at Guindy National Park.

Pied Crested Cuckoo *Clamator jacobinus* (Boddaert), 1783
The species parasitizes on babblers of the *Turdoides* spp.
AP: First heard on 2 May at Osmania University. Last reported on 16 November from ICRISAT Asia Centre. 1 immature with brownish plumage and a pinkish lower bill spotted on 4 October at Kasu Brahmananda Reddy National Park. Confirmed breeding.
TN: 2 juveniles observed on 23 November at Nanmangalam Reserve Forest. Confirmed breeding.

Plaintive Cuckoo *Cacomantis passerinus* (Vahl), 1797
TN: *c.*5 on 23 November at Nanmangalam Reserve Forest. Local migrant.

Koel *Eudynamys scolopacea* (Linné), 1758
The species parasitizes the House Crow *Corvus splendens*.
TN: Young heard begging for food on 5 October and 2 November at Alwarpet and on 12 October at Guindy National Park. Confirmed breeding.

Coucal *Centropus sinensis* (Stephens), 1815
AP: 1 bird seen constructing a nest *c.* 20` up a mango tree on 16-17 June at Banjara Hills. Probably breeding.
TN: 1 bird observed carrying nesting material on 15 August at Guindy National Park. Probably breeding.

Spotted Owlet *Athene brama* (Temminck), 1821
AP: Nesting birds observed on 21-22 July at Gunrock Enclave. Confirmed breeding.

Alpine Swift *Tachymarptis melba* (Linné), 1758
KA: *c.*4 on 21 December at Bandipur National Park.

Blue-tailed Bee-eater *Merops philippinus* Linné, 1766
AP: First reported (2 birds) on 23-29 August at Kondakarla Lake.
TN: Seen on 13 and 27 July at Velacherry Marshes.

Little Green Bee-eater *Merops orientalis* Latham, 1801
AP: Several immature birds without central pin-feathers and green heads versus coppery-gold of adults on 22 June at Kasu Brahmananda Reddy National Park. Confirmed breeding in surrounds.

Indian Roller *Coracias benghalensis* (Linné), 1758
AP: An adult feeding young in the hollow of a tree, 9-15 May at Jannaram Forest Division. Confirmed breeding.

Hoopoe *Upupa epops* Linné, 1758
AP: 1 bird mobbing a Shikra *Accipiter badius* on 22 May at Kasu Brahmananda Reddy National Park. Confirmed breeding as such aggression is a sure sign of a nest or fledged young close by.

Small Green Barbet *Megalaima viridis* (Boddaert), 1783
TN: A nest in a coconut palm on 25 December at North Parur. Confirmed breeding.

Coppersmith *Megalaima haemacephala* (P.L.S. Müller), 1776
AP: 1 bird constructing a nest on the lower side of a horizontal branch, *c.* 25' up in a mango tree on 19 October at Anantgiri, Vikarabad Mandal. Confirmed breeding.

Lesser Goldenbacked Woodpecker *Dinopium benghalense* (Linné), 1758
TN: A nest 4m up a Neem tree *Azadirachta indica*, with nestlings (OT Ravindran) on 15 August at Nandanam, Chennai. Confirmed breeding.

Indian Pitta *Pitta brachyura* (Linné), 1766
Wanders with the onset of the Monsoon. "Through south and peninsular India northward in May and June, heralding the advance of the SW. monsoon; in the opposite direction, towards Ceylon (Sri Lanka), in September-October marking the end of the rainy season," (Ali & Ripley, 1987).
AP: Pairs seen commonly on 9 May at Jannaram Forest Division. Probably breeding.
Birds visible in Hyderabad city from September. 1 dead bird found in garden on 25th at Banjara Hills. Another perched on a Eucalyptus tree on 30th at Somajiguda. One flew into a house at 16:00hrs, on 7 December. The bird was in good condition and was released next day. Possibly breeding.
TN: *c.*5 heard at dusk on 12 October and 4 seen on 9 November at Guindy National Park. 4 birds were also heard on 30 November at Adyar Estuary.

Sykes' Crested Lark *Galerida deva* (Sykes), 1832
This is an endemic species.
AP: *c.* 40 birds on 28 September and 2 flocks on 23 November at Shamirpet Lake area. Also 4 on 21 December around Ibrahimpatnam Tank.

Collared Sand Martin *Riparia riparia* (Linné), 1758
AP: 4 birds in a flock of Redrumped Swallows *Hirundo daurica* in flight and on wires on 27 December at Pulicat Bird Sanctuary.

Swallow *Hirundo rustica* Linné, 1758
AP: Small numbers heading southward, first recorded on 16 August at Tada, Pulicat Lake.
TN: 4 birds on 27 July at Velacherry Marshes.

Grey Shrike *Lanius excubitor* Linné, 1758
AP: 1 immature on 4 October at Kasu Brahmananda Reddy National Park. Confirmed breeding?

Bay-backed Shrike *Lanius vittatus* Valenciennes, 1826
AP: 1 bird seen carrying away food in bill on 23 November at Shamirpet Lake area. Must be carrying it to its larder as the breeding season is between February and September (Ali & Ripley, 1987).

Brown Shrike *Lanius cristatus* Linné, 1758
AP: Abundant on 12 October at ICRISAT Asia Centre.

TN: Few on 23 and 30 November at Nanmangalam Reserve Forest.

Golden Oriole *Oriolus oriolus* (Linné), 1758
AP: 2 nests under construction on 25 May at Sanjivayya Park. Probably breeding.

Black Drongo *Dicrurus macrocercus* Vieillot, 1817
Breeds during the Monsoon.
AP: Very pugnacious behaviour towards other birds on 25 May at Sanjivayya Park. Adult feeding juvenile atop Neem tree *Azadirachta indica* A. Juss., on 22 June at Kasu Brahmananda Reddy National Park. A nest in a *Terminalia* sp., vigorously defended from House Crows *Corvus splendens* on 20 July at Jubilee Hills. 14 birds in tail moult on 23-29 August at Kondakarla Lake. Many immature birds with bellies speckled white on 12 October at ICRISAT Asia Centre. Confirmed breeding.
TN: Adult feeding young nest on 20-21 August at Acharapakkam Village. Birds in tail moult on 16-17 September at Adyar Estuary. More than 80% birds in tail moult. 3 juveniles also on 21 September at Poondi Reservoir. About 50% of birds seen in tail moult on 28 September at Chembarambakkam Tank. Confirmed breeding.

Grey Drongo *Dicrurus leucophaeus* Vieillot, 1817
AP: First reported on 6 October at Banjara Hills.
TN: 2 birds on 12 October at Guindy National Park.

Greyheaded Myna *Sturnus malabaricus* (Gmelin), 1789
TN: 5 birds on 23 and 30 November at Nanmangalam Reserve Forest.

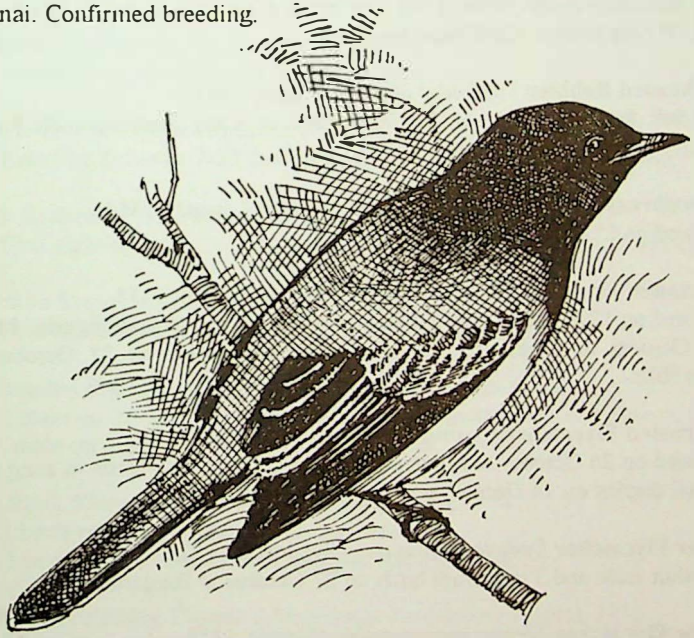
Brahminy Myna *Sturnus pagodarum* (Gmelin), 1789
AP: 1 immature on 4 October at Kasu Brahmananda Reddy National Park. Confirmed breeding.
TN: Several juveniles on 23 and 30 November at Nanmangalam Reserve Forest. Confirmed breeding.

Common Myna *Acridotheres tristis* (Linné), 1766
AP: Bird carrying nesting material on 21 June at ICRISAT Asia Centre. Probably breeding.
TN: A nest in a coconut palm on 3 December at North Parur. Confirmed breeding.

Indian Treepie *Dendrocitta vagabunda* (Latham), 1790
TN: Carrying nesting material on 20-21 August at Irumbedu Village, Cheyyur Taluk. Probably breeding. Displaying on 24 December at Guindy National Park.

House Crow *Corvus splendens* Vieillot, 1817
AP: About 20 birds peacefully collecting pieces of binding wire for nesting material on 18 May at Tondpalli Village, Shamshabad. Probably breeding. 1 immature on 21 June at ICRISAT Asia Centre. 1 immature on ground on 20 July at Tondpalli Village, Shamshabad. Confirmed breeding.
TN: Nest with eggs and young ones on 14 July at Santhome, Chennai. Nest on pylon with 2-3 young on 27 July at Velacherry Marshes. 1 chick on ground on 21 October at Santhome, Chennai. Seen feeding on ripe Neem fruit, by plucking it in flight on 11 November at Santhome, Chennai. Confirmed breeding.

Jungle Crow *Corvus macrorhynchos* Wagler, 1827
TN: A fledgling perched on a small shrub on 18 August at Santhome, Chennai. Confirmed breeding.



Black-headed Cuckoo-Shrike *Coracina melanoptera* (Rüppell), 1839
AP: 1 adult and 2 immature birds seen on 2 October at Kasu Brahmananda Reddy National Park. Confirmed breeding.

Ashy Minivet *Pericrocotus divaricatus* (Raffles), 1822
TN: 1 female on 9 November at Guindy National Park.

Small Minivet *Pericrocotus cinnamomeus* (Linné), 1766
KA: A nest with 2 eggs was observed on 12 September at Bannerghatta National Park. Adults were seen feeding 2 chicks on 20th and on 26th the young birds fledged and flew out of the nest. Confirmed breeding.

Common Iora *Aegithina tiphia* (Linné), 1758
AP: Males in breeding plumage and singing on 25 May at Sanjivayya Park. Possibly breeding.

Redvented Bulbul *Pycnonotus cafer* (Linné), 1766
AP: A bird carrying nesting material into a bougainvillea on 18-19 May at Hyderabad City. Probably breeding. 2 immature birds seen on 12 June at Banjara Hills. Confirmed breeding.

Yelloweyed Babbler *Chrysomma sinense* (Gmelin), 1789
AP: 4 immature birds (without red ring around eyes) seen on 12 October at ICRISAT Asia Centre. Confirmed breeding.

Whiteheaded Babbler *Turdoides affinis* (Jerdon), 1847
AP: Adult feeding young on 21 September at Kasu Brahmananda Reddy National Park. Confirmed breeding.

Brownbreasted Flycatcher *Muscicapa muttui* (Layard), 1854
AP: 1 bird on 27 October at Banjara Hills.

Rufoustailed Flycatcher *Muscicapa ruficauda* Swainson, 1838
AP: 1 bird on 12 October at ICRISAT Asia Centre and at Somajiguda. 1 bird on 19 October at Anantgiri, Vikarabad Mandal. 1 bird on 27 October at Banjara Hills.

Bluethroated Flycatcher *Cyornis rubeculoides* (Vigors), 1831
TN: Heard on 26 October at Madras Christian College. *c.* 6 birds in song and territorial display on 14 December at Guindy National Park.

Verditer Flycatcher *Eumyias thalassina* (Swainson), 1838
AP: 1 adult male and 3 immature birds on 27 October at Banjara Hills.

Paradise Flycatcher *Terpsiphone paradisi* (Linné), 1758
AP: 1 adult female and 1 immature male on 27 October at Banjara Hills.

TN: 1 adult female on 26 October at Madras Christian College. 2 birds (1 male) on 9 November at Guindy National Park. Birds on 15 November at North Parur (non-breeding local migrant).

Rufousfronted Prinia *Prinia buchanani* Blyth, 1844
AP: 1 bird in coarse grass on 21 June at ICRISAT Asia Centre

Plain Prinia *Prinia inornata* Sykes, 1832
AP: 1 bird seen carrying nesting material on 27 December at Pulicat Bird Sanctuary Probably breeding.

Ashy Prinia *Prinia socialis* Sykes, 1832
AP: 1 adult and 2 juveniles on 11 October at Qutub Shahi Tombs. Confirmed breeding.

Jungle Prinia *Prinia sylvatica* Jerdon, 1840
TN: 1 nest in bush, 1' above ground. Adult feeding young and removing fecal-sac on 23 November at Nanmangalam Reserve Forest. Confirmed breeding.

Orphean Warbler *Sylvia hortensis* (Gmelin), 1789
AP: 1 bird on 23 November at Shamirpet Lake.

Magpie-Robin *Copsychus saularis* (Linné), 1758
AP: Breeding between 2-23 June at Banjara Hills. Confirmed breeding.

Black Redstart *Phoenicurus ochruros* (Gmelin), 1774
AP: First sighting on 4 October at Kasu Brahmananda Reddy National Park.

Common Stonechat *Saxicola torquata* (Linné), 1766
AP: First sighting on 12 October at ICRISAT Asia Centre.

Blueheaded Rock Thrush *Monticola cinclorhynchus* (Vigors), 1832
AP: 1 male on 25-26 December at Sri Venkateshwara National Park. 1 female and 1 male on 6 April at ICRISAT Asia Centre.

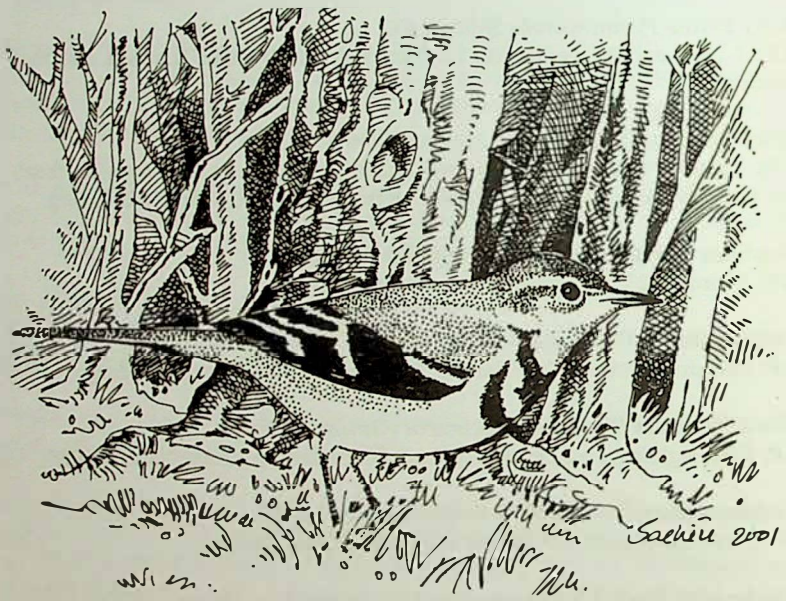
Blue Rock Thrush *Monticola solitarius* (Linné), 1758
AP: 2 birds on 23 November at Shamirpet Lake.
KA: 1 bird on 17 December at Bandipur National Park.

Malabar Whistling Thrush *Myiophonus horsfieldii* (Vigors), 1831
TN: 1 bird seen carrying nesting material to an abandoned building on 23 July at the Forest Ranger's College Campus. Probably breeding.

Spotted Grey Creeper *Salpornis spilonotus* (Franklin), 1831
AP: 3 pairs in mixed bamboo and teak forest on 9-15 May at Jannaram Forest Division.

Richard's Pipit *Anthus richardi* Vieillot, 1818
AP: 2 birds first spotted on 28 September at Shamirpet Lake.

Paddyfield Pipit *Anthus rufulus* Vieillot, 1818
AP: 2 birds carrying insects in their bills on 28 May at ICRISAT Asia Centre



Forest Wagtail *Dendronanthus indicus* (Gmelin), 1789
TN: Records of sightings of 4 birds on 14 September at Guindy National Park, of 3 birds on 4 October at Luz, Chennai city and 2 birds on 23-24 October at Boat Club, Chennai city.

Large Pied Wagtail *Motacilla maderaspatensis* Gmelin, 1789
TN: A family of 2 adults and 2 immature birds was observed on 27 July at Velacherry Marshes. Confirmed breeding

Purplerumped Sunbird *Nectarinia zeylonica* (Linné), 1766
AP: A pair attending a nest in a bougainvillea bush on 11 July at Banjara Hills. 1 immature on 2 October at Kasu Brahmananda Reddy National Park. 1 adult in breeding plumage and a juvenile with orange mouth feeding on insects on a *Ber* plant on 11 October at Qutub Shahi Tombs. Confirmed breeding.

Loten's Sunbird *Nectarinia lotenia* (Linné), 1766
AP: Feeding on nectar of *Loranthus* sp., on 25-26 December at Sri Venkateshwara National Park.
TN: Singing on 21 September at Poondi Reservoir.

Baya *Ploceus philippinus* (Linné), 1766
AP: Nesting activity observed from 28 May to 30 October at ICRISAT Asia Centre. Confirmed breeding.
TN: Nests at several locations with birds on 30-31 August at Palayanoor, Tiruttani Taluk. Confirmed breeding.

Blackbreasted Weaver *Ploceus benghalensis* (Linné), 1758
AP: 30+ nests in one colony, 10+ nests in another on 28 May at ICRISAT Asia Centre. Nests suspended from bushes. Breeding on 21 June at ICRISAT Asia Centre. Confirmed breeding.

Streaked Weaver *Ploceus manyar* (Horsfield), 1821
AP: Breeding on 28 May and 21 July at ICRISAT Asia Centre. Confirmed breeding.

Red Avadavat *Amandava amandava* (Linné), 1758
AP: Males in breeding plumage, carrying nesting material on 30 October at ICRISAT Asia Centre. Probably breeding.

Whitethroated Munia *Lonchura malabarica* (Linné), 1758
AP: Nesting on 13 July at Hyderabad Central University. Confirmed breeding.

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Appendix 1: Gazetteer

STATE—DISTRICT

Andhra Pradesh (AP)
Adilabad
Anantapur
Chittoor
Hyderabad
Mahbubnagar
Medak
Nalgonda
Nellore
Rangareddi
Vishakhapatnam
Karnataka (KA)
Bangalore
Belgaum
Mandya
Mysore
Kerala (KE)
Ernakulam
Maharashtra (MA)
Ahmednagar
Kolhapur
Mumbai
Tamil Nadu (TN)
Chennai
Coimbatore
Kancheepuram
Nilgiris
North Arcot
Tiruvallur

DISTRICT—STATE

Adilabad—AP
Ahmednagar—MR
Anantapur—AP
Bangalore—KA
Belgaum—KA
Chennai—TN
Chittoor—AP
Coimbatore—TN
Ernakulam—KE
Hyderabad—AP
Kancheepuram—TN
Kolhapur—MR
Mahbubnagar—AP
Mandya—KA
Medak—AP
Mumbai—MR
Mysore—KA
Nalgonda—AP
Nellore—AP
Nilgiris—TN
North Arcot—TN
Rangareddi—AP
Tiruvallur—TN
Vishakhapatnam—AP

AREA—DISTRICT—STATE

Acharapakkam Village—Kancheepuram—TN
Adyar Estuary—Chennai—TN
Alangad—Ernakulam—KE
Alwarpet—Chennai—TN

Anantgiri—Rangareddi—AP
Bandipur National Park—Mysore—KA
Bannerghatta National Park—Bangalore—KA
Banjara Hills—Hyderabad—AP
Belapur—Ahmednagar—MA
Chembarambakkam Tank—Kancheepuram—TN
Chilkur Deer Park—Rangareddi—AP
Coimbatore city—Coimbatore—TN
Dindi Reservoir—Nalgonda—AP
Forest Ranger's College Campus—Coimbatore—TN
Guindy National Park—Chennai—TN
Gunrock Enclave—Hyderabad—AP
Hussain Sagar—Hyderabad—AP
Hyderabad Central University—Rangareddi—AP
Hyderabad City—Hyderabad—AP
Ibrahimpatnam Tank—Rangareddi—AP
ICRISAT Asia Center, Patancheru—Medak—AP
Irumbedu Village, Cheyyur—Kancheepuram—TN
Jannaram Forest Division—Adilabad—AP
Jubilee Hills—Hyderabad—AP
Kasu Brahmananda Reddy National Park—Hyderabad—AP
Khanamet Tank—Rangareddi—AP
Kokrebellur Bird Sanctuary—Mandya—KA
Kolhapur—Kolhapur—MA
Kondakarla Lake—Vishakhapatnam—AP
Kudachi—Belgaum—KA
Lathoor, Cheyyur Taluk—Kancheepuram—TN
Londa—Belgaum—KA
Madhapur, Jubilee Hills—Hyderabad—AP
Madras Christian College—Chennai—AP
Madurantakam Tank—Kancheepuram—TN
Marudham Reserve Forest, Uthiramerur Taluk—Kancheepuram—TN
Masab Cheruvu—Rangareddi—AP
Masinagudi—Nilgiris—TN
Miapur Tank—Rangareddi—AP
Mozamjahi Market—Hyderabad—AP
Mysore City—Mysore—KA
Nandanam—Chennai—TN
Nandi Hills—Hyderabad—AP
Nanmangalam Reserve Forest—Kancheepuram—TN
Nelapattu Bird Sanctuary—Nellore—AP
North Parur—Ernakulam—KE
Osmania University—Rangareddi—AP

Palayanoor, Tiruttani Taluk—Tiruvallur—TN
Pandravedu Eri, Pallipat Taluk—Tiruvallur—TN
Pimpalgaon Reservoir—Alumednagar—MA
Poondi Reservoir—Tiruvallur—TN
Pulicat Bird Sanctuary—Nellore—AP
Puthali Tank, Uthiramerur Taluk—Kancheepuram—TN
Qutub Shahi Tombs—Hyderabad—AP
Ranganathittu Bird Sanctuary—Mysore—KA
Rishi Valley—Chittoor—AP
Sanjivayya Park—Hyderabad—AP
Santhome, Chennai—Chennai—TN
Shamirpet Lake—Rangareddi—AP
Shedbal—Belgaum—KA
Sholingur—North Arcot—TN
Somajiguda—Hyderabad—AP
Sri Venkateshwara National Park—Chittoor—AP
Tada, Pulicat Lagoon—Nellore—AP
Tondpalli Village, Shamshabad Mandal—Rangareddi—AP
Top Slip, Indira Gandhi Wildlife Sanctuary—Coimbatore—TN
Udhampur, Indanpalli range (Jannaram Forest Div.)—Adilabad—AP
Uthiramerur Tank, Uthiramerur Taluk—Kancheepuram—TN
Vedanthangal—Kancheepuram—TN
Veeramangalam, Pallipat Taluk—Tiruvallur—TN
Veerapuram Village—Anantapur—AP
Velacherry Marshes—Kancheepuram—TN

Appendix 2: Regional Referees

Andhra Pradesh—Aasheesh Pittie
Kerala—P.O. Nameer
Tamil Nadu—V. Santharam

Appendix 3: Contributors

Aasheesh Pittie
Ahmed Abdul Aziz
C. Tom Hash
Hashim Tyabji
J.V.D. Moorty
Jafer Palot
Kumar Ghorpadé
M.S. Kulkarni
Rajeev Mathew
S. Ashok Kumar
Siraj A. Taher
Suhel Quader
V. Santharam
V.K. Paralkar

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Avifaunal Diversity of Medchal Mandal, Rangareddi District, Andhra Pradesh[1]

C. SRINIVASULU & BHARGAVI SRINIVASULU[2]

Introduction

Medchal mandal is located 20km north of Hyderabad in Rangareddi district, Andhra Pradesh (*see* Figure 1). It forms the northern suburb of Secunderabad. It lies between coordinates 17°36' to 17°41'N and 78°22' to 78°37'E, occupying an area of 196.32km^2, which is 2.62% of the geographical area of Rangareddi district. Its headquarters are located at Medchal village. The approximate human population of the mandal is 44,508 (1991 Census, Mandal Revenue records) with a density of 226.7km^2. There are 18 Gram Panchayats and 18 hamlets in the mandal (Table 1) of which 32 are populated villages, 3 are unpopulated villages and 1 completely abandoned hamlet.

Out of the total geographical area of the mandal, 22.93km^2 (11.6%) of land is under agricultural use. The main crops are paddy and jowar, followed by maize, pulses and vegetables. There are 112 man-made or natural water bodies in the mandal, most of which are drained for agriculture purposes. Of these 14 water bodies are >25ha in area (Table 2). A large number of waterbirds visit many of these water bodies every year.

The general topography of the mandal is slightly undulating with scattered stones and boulders with elevation ranging between 545-647m above MSL. Vegetation is primarily that of Southern Tropical Thorn Forest (6A/C1) type (Champion & Seth, 1968) that can be further categorized as scrub jungle. Forest cover of the mandal is 14.89 km^2 in area contributing to 7.5% of the total geographical area. Mixed scrub species such as *Annona squamosa, Zizyphus jujuba, Zizyphus oenoplia, Zizyphus xylopyrus, Sapindus emarginatus, Buchnania lanzin, Butea monosperma, Dalbergia latifolia, Bauhinia racemosa, Bauhinia variegata, Tamarindus indica, Acacia leucophloea, Acacia arabica, Anogeissus latifolia, Randia dumetorum, Diospyros melanoxylon* and, *Lagerstroemia parviflora,* are common in extension zones near villages and reserve forest areas. These features attract diverse avifauna to this region. Common plants recorded from the mandal during the study period accounted for about 87 species of trees, 18 shrubs, 4 herbs, 4 climbers, 11 grasses and 7 exotic weeds. In reserve forest areas, plantations of *Eucalyptus* sp., *Leucanea leucophloea*, and *Dalbergia latifolia* replace most of the natural vegetation thus directly influencing the vertebrate population.

[1] Received for publication: January 1997.
[2] Department of Zoology, Osmania University, Hyderabad 500007.

Although, earlier workers (Gaye, 1891; Currie, 1919; Ali, 1933a, b, c: Ali, 1934a, b; Abdulali, 1936; Beresford, 1937; Rahimullah, 1946; Neavoll, 1968; Kumar, 1980; Vyas, 1981; Pittie & Taher, 1985; Satheesan & Rao, 1990; Ganesh & Kannaiah, 1991; Peacock, 1994 & Quader, 1994) have reported bird species sightings in and around Hyderabad-Secunderabad, this is, with the exception of Col. Sparrow's collection from this area as reported by Ali (1933a,b,c, 1934a,b), the first detailed checklist of avifauna from this part. The mandal being comparatively the least industrialized segment of sub-urban Secunderabad, considerable chunk of natural vegetation is left intact. Unplanned development in the form of urbanization and industrialization will lead to ecological imbalance resulting in irrecoverable loss of the biodiversity of this region.

Methods

Routine surveys were conducted over a period of 8 years (1988-1995, with a few records from 1987) throughout the mandal in various habitats like reserve forest areas, grassland patches, tanks, fields (cultivated & fallow) and villages, and bird records were noted down. Most surveys were carried out on foot by line transect method and imaginary grid method (Gaston, 1973). Sometimes vehicular surveys were also carried out. Identification was by following Ali (1981), Ali and Ripley (1983a) and Woodcock (1983). Aspects such as habitats frequented, status and, abundance (depending upon the number of occasions a species was sighted throughout the study period, they were categorized as 'abundant', 'uncommon', 'occasional' and, 'rare'.) of birds observed were also noted.

Results and Discussion

A total of 163 species belonging to 46 families were recorded during the study period. The main list of bird species along with habitat frequented, status and abundance is appended (*see* Appendix). Nomenclature follows Ali & Ripley (1983b). Of the total, 3.06% (5 species) were abundant, 12.26% (20 species) were common, 46.01% (75 species) were uncommon, 31.28% (51 species) were occasional and 7.36% (12 species) were rare in occurrence. 88 species (53.98%) were residents, 5 species (3.06%) are of doubtful resident status, while 34 species (20.85%) were local migrants (species that are possibly residents but conspicuously absent during certain periods of the year) and, 36 species (22.08%) were winter migrants. Of the total birds recorded, 73 species (44.78%) bred in this area, while 15 species (9.2%) probably bred here. A considerable overlap in habitat utilisation by birds was noted. The extent of overlap has not been studied as it is outside the scope of this paper. Most of the species were recorded in scrubland, fields and, in and around tanks. 87 species (53.37%) were noted in scrubland habitat, 76 species (46.62%) in fields, 57 species (34.96%) in and near tanks, 55 species (33.74%) in grassland

patches, 41 species (25.15%) in village groves and, 13 species (7.97%) in all the habitats.

Some of the rare and uncommon bird species recorded from the study area (Indian Shag *Phalacrocorax fuscicollis*, Whitenecked Stork *Ciconia episcopus*, White Ibis *Threskiornis aethiopica*, Black Ibis *Pseudibis papillosa*, Greater Spotted Eagle *Aquila clanga*, Lesser Spotted Eagle *Aquila pomarina* and Wryneck *Jynx torquilla*) speak about the importance of this region as a refuge to avifaunal diversity amidst stress caused by ever-increasing human interference in the form of industrialization and urbanization, as well as the fast dwindling favourable habitats. Birds that were common in the past like, Grey Junglefowl *Gallus sonneratii* and Common Peafowl *Pavo cristatus*, have disappeared or are sighted rarely. On the other hand, birds that were not seen for quite a long time have reappeared indicating the dynamic nature of the mandal environs.

Of the total 46 families recorded from the area, those with greatest species diversity were Muscicapidae (19 species), Accipitridae (15 species) and Anatidae (13 species). Families represented by single species were Podicipedidae, Rostratulidae, Recurvirostridae, Pteroclididae, Coraciidae, Upupidae, Bucerotidae, Oriolidae, Dicruridae, Artamidae, Irenidae and, Paridae. Families represented by 5 or more species recorded from the study area are as follows:

Ardeidae: 8 species representing this family were recorded from the study area, common among which were Pond Heron *Ardeola grayii*, Cattle Egret *Bubulcus ibis* and Little Egret *Egretta garzetta*, which are also resident breeders. Breeding of Smaller Egret *Egretta intermedia* and Night Heron *Nycticorax nycticorax* was also noted but their numbers were not significant. Grey Heron *Ardea cinerea*, Large Egret *Ardea alba*, and Chestnut Bittern *Ixobrychus cinnamomeus* were local migrants to this region.

Anatidae: 9 species of winter migrants along with 2 species of residents and 2 species of local migrants were recorded. Spotbill Duck *Anas poecilorhyncha* is a common species that was recorded breeding in many small tanks while Lesser Whistling Teal *Dendrocygna javanica* is a resident that probably breeds although no nests were recorded. Abundance of other species fluctuated considerably with availability of water. Since the winter of 1994 an unprecedented increase in numbers of Redcrested Pochard *Netta rufina*, Pintail *Anas acuta*, Mallard *A. platyrhynchos*, Gadwall *A. strepera*, Wigeon *A. penelope* and Garganey *A. querquedula* has been noted. Common Teal *A. crecca* and Comb Duck *Sarkidiornis melanotos*—recent additions to this family—first observed in winter of 1994, of which the latter is an uncommon local migrant.

Accipitridae: 15 species of diurnal raptors were recorded. All the vulture species were recorded either on a carcass or in flight. Common among the rest

are Blackwinged Kite *Elanus caeruleus* (breeding), Pariah Kite *Milvus migrans* (breeding), and Short-toed Eagle *Circaetus gallicus* (breeding). Other species such as Brahminy Kite *Haliastur indus*, Shikra *Accipiter badius*, Crested Hawk-Eagle *Spizaetus cirrhatus*, and Tawny Eagle *Aquila rapax* are considered to be local migrants (as defined in first paragraph on first page of paper). Greater Spotted Eagle and Lesser Spotted Eagle (single sightings of each at Gundla Pochampally and Athvelly respectively) are considered to be winter migrants. Pied Harrier *Circus melanoleucos* and Marsh Harrier *C. aeruginosus* are also winter migrants and were recorded occasionally.

Phasianidae: 5 species, commonest being Grey Partridge *Francolinus pondicerianus*, Grey Quail *Coturnix coturnix*, Rain Quail *C. coromandelica* and Jungle Bush Quail *Perdicula asiatica*. Indian Peafowl, which was once abundant in this area, is rare with distribution restricted to reserve forest areas. All these species are resident breeders.

Charadriidae: 9 species. Common representatives such as Redwattled Lapwing *Vanellus indicus* and Yellow-wattled Lapwing *V. malabaricus* are resident breeders. Other species are winter migrants. Occasional sightings of Blacktailed Godwit *Limosa limosa*, Redshank *Tringa totanus* and Common Snipe *Gallinago gallinago* are worth noting.

Columbidae: 5 species represent this family and all are resident breeders. Spotted Dove *Streptopelia chinensis*, Blue Rock Pigeon *Columba livia* and Ring Dove *Streptopelia decaocto* are commoner than Red Turtle Dove *S. tranquebarica* and Little Brown Dove *S. senegalensis*.

Alaudidae: 5 species. Redwinged Bush Lark *Mirafra erythroptera*, Ashycrowned Finch-Lark *Eremopterix grisea* and Indian Small Skylark *Alauda gulgula* are resident breeders, while Rufoustailed Finch-Lark *Ammomanes phoenicurus* is a resident with probable breeding status. Madras Bush Lark *Mirafra affinis* is probably a local migrant to this area whose correct status is yet to be confirmed.

Muscicapidae: 19 species represent this family. Commoner species are Common Babbler *Turdoides caudatus*, Large Grey Babbler *T. malcolmi*, Jungle Babbler *T. striatus*, Whiteheaded Babbler *T. affinis*, Streaked Fantail Warbler *Cisticola juncidis*, Plain Wren Warbler *Prinia inornata*, Ashy Wren Warbler *P. socialis*, Jungle Wren Warbler *P. sylvatica*, Tailorbird *Orthotomus sutorius*, Magpie-Robin *Copsychus saularis* and Indian Robin *Saxicoloides fulicata*, all of which excepting two, that is, the Jungle Wren-Warbler and Magpie-Robin (a local migrant, seen in good numbers during dry season preceding monsoon), are resident breeders. Nests of Jungle Wren-Warbler were not recorded but their breeding possibility in this area cannot be overlooked as juveniles were infrequently met with. Tickell's Blue Flycatcher *Cyornis tickelliae*, which was sighted occasionally and, Pied Bush Chat *Saxicola caprata* are local migrants while the other species such as the Brown Flycatcher *Muscicapa latirostris*, Leaf Warblers *Phylloscopus* sp., Black

Redstart *Phoenicurus ochruros*, and Stone Chat *Saxicola torquata* are winter migrants. Rare sightings of Blue Rock Thrush *Monticola solitarius* and Blackbird *Turdus merula* are worth noting.

Motacillidae: 5 species. Common among them are Grey Wagtail *Motacilla cinerea*, White Wagtail *M. alba* and Large Pied Wagtail *M. maderaspatensis*, of which the first two are winter migrants while the Large Pied Wagtail is a resident breeder whose numbers increase during winter. Paddyfield Pipit *Anthus rufulus* is seen in abundance during the dry season preceding monsoon and is considered to be a local migrant to this area. Tawny Pipit *A. campestris*, sighted occasionally, is a winter migrant here.

Ploceidae: 7 species, of which all are common in occurrence except the Red Munia *Amandava amandava*. Yellowthroated Sparrow *Petronia xanthocollis* seen regularly before 1991 during the dry season has now become rare. House Sparrow *Passer domesticus*, Baya *Ploceus philippinus*, Whitethroated Munia *Lonchura malabarica* and Spotted Munia *L. punctulata* are resident breeders. Whitebacked Munia *L. striata*, whose breeding status is yet to be confirmed, is seen in abundance during summer.

Medchal mandal, the least urbanized suburban sector of Secunderabad, has remnant patches of degraded forest tracts along Goudvelly, Athvelly and Pudur sectors. Smaller seasonal streams and bank side vegetation offer good refuge to winter migrating passerines. Vast expanse of fields, scrub jungle and a large number of water bodies cater to the needs of resident species. Further and regular surveys are required in future to study the effect of rapid urbanization in the mandal.

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Table 1

List of villages and associated hamlets in Medchal Mandal

S. No.	Village	Hamlet(s)
1.	Athvelly	—
2.	Banda Madharam	—
3.	Dabirpur	Lingapur, Burmajiguda
4.	Girmapur	—
5.	Goudvelly	Baseragadda, Gyanapur
6.	Gundla Pochampally	Maisammagudem
7.	Kandlakoi	Suttaregudem
8.	Medchal	Kistapur
9.	Muneerabad	—
10.	Nuthankal	Konaipally, Maisireddypally
11.	Poodur	Gosaiguda, Arkalguda
12.	Raja Bolarum	Raja Bolarum Tanda, Akbarjapet, Ghanpur, Ghanpur Tanda
13.	Railapur	—
14.	Rawalkole	Kasambai Tanda, Rawalkole Tanda
15.	Somaram	—
16.	Srirangavaram	—
17.	Yadaram	Murharipally
18.	Yellampet	—

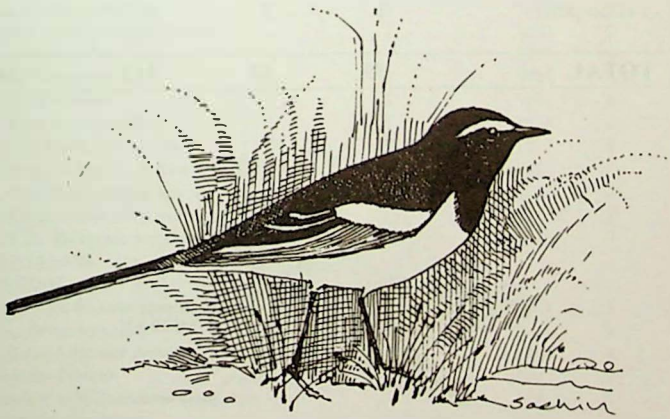
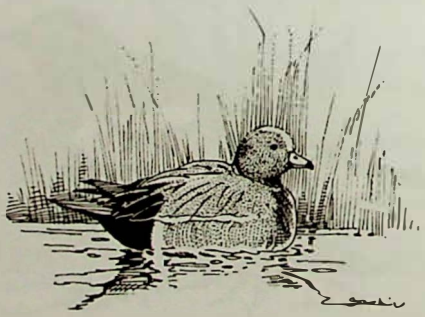


Table 2

Details of waterbodies in the Medchal Mandal

S. No.	Village/Hamlet	Restored	Unrestored	Total	No. of Large Tanks
1.	Akbarjapet	1	—	1	—
2.	Athvelly	—	1	1	—
3.	Banda Madharam	4	1	5	—
4.	Burmajiguda	1	—	1	—
5.	Dabirpur	1	—	1	1
6.	Ghanpur	1	—	1	1
7.	Girmapur	4	2	6	1
8.	Goudvelly	4	1	5	1
9.	Gundla Pochampally	6	1	7	2
10.	Kandlakoi	4	1	5	—
11.	Konaipally	1	—	1	1
12.	Lingapur	3	—	3	2
13.	Maisireddypally	3	1	4	—
14.	Medchal	3	6	9	—
15.	Murharipally	3	1	4	—
16.	Nuthankal	2	7	9	1
17.	Poodur	7	2	9	—
18.	Railapur	2	1	3	—
19.	Raja Bolarum	2	1	3	—
20.	Rawalkole	3	3	6	—
21.	Srirangavaram	10	6	16	3
22.	Yadaram	3	5	8	1
23.	Yellampet	1	3	4	—
	TOTAL	**69**	**43**	**112**	**14**



Appendix

Systematic list (Ripley, 1982) of birds recorded from Medchal Mandal in Rangareddi District

Name	Habitat	Status	Abundance
PODICIPEDIFORMES			
PODICIPEDIDAE			
Little Grebe *Podiceps ruficollis*	T	R, B	3
PELECANIFORMES			
PHALACROCORACIDAE			
Cormorant *Phalacrocorax carbo*	T	LM	4
Indian Shag *Phalacrocorax fuscicollis*	T	LM	5
Little Cormorant *Phalacrocorax niger*	T, F, VG	LM	3
CICONIIFORMES			
ARDEIDAE			
Grey Heron *Ardea cinerea*	T	LM	4
Large Egret *Ardea alba*	T	LM	4
Pond Heron *Ardeola grayii*	F, T, VG	R, B	2
Cattle Egret *Bubulcus ibis*	F, T, VG	R, B	2
Smaller Egret *Egretta intermedia*	T, F	R, B	4
Little Egret *Egretta garzetta*	F, T, VG	R. B	2
Night Heron *Nycticorax nycticorax*	T. VG	R, B	4
Chestnut Bittern *Ixobrychus cinnamomeus*	T, F	LM	4
CICONIIDAE			
Openbill Stork *Anastomus oscitans*	T, F	LM	4
Whitenecked Stork *Ciconia episcopus*	T	LM	5
THRESKIORNITHIDAE			
White Ibis *Threskiornis aethiopica*	T	LM	5
Black Ibis *Pseudibis papillosa*	T, F	LM	5
ANSERIFORMES			
ANATIDAE			
Lesser Whistling Teal *Dendrocygna javanica*	T	R, B?	3
Pintail *Anas acuta*	T	WM	4
Common Teal *Anas crecca*	T	WM	3
Spotbill Duck *Anas poecilorhyncha*	T	R, B	2
Mallard *Anas platyrhynchos*	T	WM	4
Gadwall *Anas strepera*	T	WM	4
Wigeon *Anas penelope*	T	WM	4
Garganey *Anas querquedula*	T	WM	4
Redcrested Pochard *Netta rufina*	T	WM	4
Common Pochard *Aythya ferina*	T	WM	4
White-eyed Pochard *Aythya nyroca*	T	WM	4
Cotton Teal *Nettapus coromandelianus*	T	LM	3
Comb Duck *Sarkidiornis melanotos*	T	LM	3
FALCONIFORMES			
ACCIPITRIDAE			
Blackwinged Kite *Elanus caeruleus*	G, S	R, B	3
Pariah Kite *Milvus migrans*	S, G, F, VG	R, B	3
Brahminy Kite *Haliastur indus*	T	LM	4
Shikra *Accipiter badius*	S, G, VG	LM	3
Crested Hawk-Eagle *Spizaetus cirrhatus*	S	LM	4
Tawny Eagle *Aquila rapax*	S, F, VG	LM	3

Name	Habitat	Status	Abundance
Greater Spotted Eagle *Aquila clanga*	S	WM	5
Lesser Spotted Eagle *Aquila pomarina*	S	WM	5
King Vulture *Sarcogyps calvus*	AH	R?	4
Griffon Vulture *Gyps fulvus*	AH	R?	4
Longbilled Vulture *Gyps indicus*	AH	R?	3
Egyptian Vulture *Neophron percnopterus*	AH	R?	3
Pied Harrier *Circus melanoleucos*	F	WM	5
Marsh Harrier *Circus aeruginosus*	T, F	WM	4
Short-toed Eagle *Circaetus gallicus*	S, VG	R, B	4
FALCONIDAE			
Redheaded Merlin *Falco chicquera*	S	WM	4
Kestrel *Falco tinnunculus*	G, S	R?	3
GALLIFORMES			
PHASIANIDAE			
Grey Partridge *Francolinus pondicerianus*	S, F, G	R, B	3
Common Quail *Coturnix coturnix*	S, F, G	R, B	3
Rain Quail *Coturnix coromandelica*	S, F, G	R, B	3
Jungle Bush Quail *Perdicula asiatica*	S, G	R, B	3
Indian Peafowl *Pavo cristatus*	S	R, B	4
GRUIFORMES			
RALLIDAE			
Whitebreasted Waterhen *Amaurornis phoenicurus*	T, F	R, B	3
Watercock *Gallicrex cinerea*	T, F	LM	5
Moorhen *Gallinula chloropus*	T	LM	4
Coot *Fulica atra*	T	R, B	3
CHARADRIIFORMES			
JACANIDAE			
Pheasant-tailed Jacana *Hydrophasianus chirurgus*	T	LM	3
Bronzewinged Jacana *Metopidius indicus*	T	LM	3
ROSTRATULIDAE			
Painted Snipe *Rostratula bengalensis*	T	WM	4
RECURVIROSTRIDAE			
Blackwinged Stilt *Himantopus himantopus*	T, F	WM	3
BURHINIDAE			
Stone Curlew *Burhinus oedicnemus*	S	R, B?	3
Great Stone Plover *Esacus magnirostris*	S	R, B?	4
CHARADRIIDAE			
Redwattled Lapwing *Vanellus indicus*	T, F	R, B	2
Yellow-wattled Lapwing *Vanellus malabaricus*	S, F	R, B	3
Little Ringed Plover *Charadrius dubius*	T, F	WM	3
Blacktailed Godwit *Limosa limosa*	T, F	WM	4
Common Redshank *Tringa totanus*	T	WM	4
Wood Sandpiper *Tringa glareola*	T, F	WM	3
Common Sandpiper *Tringa hypoleucos*	T, F	WM	3
Fantail Snipe *Gallinago gallinago*	T	WM	4
Little Stint *Calidris minuta*	T, F	WM	3
COLUMBIFORMES			
PTEROCLIDIDAE			
Indian Sandgrouse *Pterocles exustus*	S, G	LM	4
COLUMBIDAE			
Blue Rock Pigeon *Columba livia*	AH	R, B	2
Ring Dove *Streptopelia decaocto*	S, F, G	R, B	2

Name	Habitat	Status	Abundance
Red Turtle Dove *Streptopelia tranquebarica*	S, F, G	R, B	3
Spotted Dove *Streptopelia chinensis*	S, F, G, VG	R, B	1
Little Brown Dove *Streptopelia senegalensis*	S, F, G	R, B	3
PSITTACIFORMES			
PSITTACIDAE			
Roseringed Parakeet *Psittacula krameri*	S, VG	R, B	3
Blossomheaded Parakeet *Psittacula cyanocephala*	S, VG	R, B?	4
CUCULIFORMES			
CUCULIDAE			
Pied Crested Cuckoo *Clamator jacobinus*	S, F, VG	LM	3
Common Hawk-Cuckoo *Cuculus varius*	S, VG	R, B	3
Koel *Eudynamys scolopacea*	S, G, VG	R, B	2
Crow-Pheasant *Centropus sinensis*	S, G, F, VG	R, B	3
STRIGIFORMES			
STRIGIDAE			
Great Horned Owl *Bubo bubo*	S	R, B	4
Spotted Owlet *Athene brama*	S, F, VG	R, B	3
Mottled Wood Owl *Strix ocellata*	S, F	R, B	3
CAPRIMULGIFORMES			
CAPRIMULGIDAE			
Indian Nightjar *Caprimulgus asiaticus*	S	R, B?	4
Franklin's Nightjar *Caprimulgus affinis*	S	R, B?	4
APODIFORMES			
APODIDAE			
House Swift *Apus affinis*	G, S, F, VG	R, B	3
Palm Swift *Cypsiurus parvus*	G, F, S	R, B?	3
CORACIFORMES			
ALCEDINIDAE			
Lesser Pied Kingfisher *Ceryle rudis*	T	R, B	3
Common Kingfisher *Alcedo atthis*	T, F	R, B?	3
Whitebreasted Kingfisher *Halcyon smyrnensis*	T, F, S, VG, G	R, B	2
MEROPIDAE			
Blue-tailed Bee-eater *Merops philippinus*	G, S	WM	4
Green Bee-eater *Merops orientalis*	G, F, S, VG	R, B	3
CORACIIDAE			
Indian Roller *Coracias benghalensis*	G, S, F, VG	R, B	3
UPUPIDAE			
Hoopoe *Upupa epops*	S, F, VG	R, B	3
BUCEROTIDAE			
Grey Hornbill *Tockus birostris*	S, VG	R, B	3
PICIFORMES			
CAPITONIDAE			
Green Barbet *Megalaima zeylanica*	VG	R, B	4
Crimsonbreasted Barbet *Megalaima haemacephala*	S, VG	R, B	3
PICIDAE			
Wryneck *Jynx torquilla*	S	WM	5
Lesser Goldenbacked Woodpecker *Dinopium benghalense*	S, VG	R, B	3
PASSERIFORMES			
ALAUDIDAE			
Bush-Lark *Mirafra assamica affinis*	S, G, VG	LM	4
Redwinged Bush Lark *Mirafra erythroptera*	F, G, S	R, B	3

Name	Habitat	Status	Abundance
Ashycrowned Finch-Lark *Eremopterix grisea*	S, F, G	R, B	2
Rufoustailed Finch-Lark *Ammomanes phoenicurus*	G, S, F	R, B?	4
Eastern Skylark *Alauda gulgula*	S, F	R, B	3
HIRUNDINIDAE			
Dusky Crag Martin *Hirundo concolor*	AH	LM	3
Swallow *Hirundo rustica*	T, G, F	WM	4
Wiretailed Swallow *Hirundo smithii*	S, F, G, T	LM	4
Redrumped Swallow *Hirundo daurica*	S, F, G, T	R, B	3
LANIIDAE			
Grey Shrike *Lanius excubitor*	S	LM	4
Baybacked Shrike *Lanius vittatus*	S, G	R, B	3
Rufousbacked Shrike *Lanius schach*	G, F	R, B?	3
ORIOLIDAE			
Golden Oriole *Oriolus oriolus*	S, VG	R, B	3
DICRURIDAE			
Black Drongo *Dicrurus macrocercus*	S, F, G, VG	R, B	2
ARTAMIDAE			
Ashy Swallow-Shrike *Artamus fuscus*	S, G, F	R, B?	3
STURNIDAE			
Brahminy Myna *Sturnus pagodarum*	S, F, G, VG	LM	2
Pied Myna *Sturnus contra*	F, G	WM	4
Indian Myna *Acridotheres tristis*	AH	R, B	1
CORVIDAE			
Treepie *Dendrocitta vagabunda*	VG	R, B	4
House Crow *Corvus splendens*	AH	R, B	1
Jungle Crow *Corvus macrorhynchos*	F, G	R, B	3
CAMPEPHAGIDAE			
Wood Shrike *Tephrodornis pondicerianus*	S, F, G	R, B	3
Small Minivet *Pericrocotus cinnamomeus*	S, VG	R, B	3
IRENIDAE			
Iora *Aegithina tiphia*	S, G	R, B	4
PYCNONOTIDAE			
Redvented Bulbul *Pycnonotus cafer*	AH	R, B	2
Whitebrowed Bulbul *Pycnonotus luteolus*	S, F	R, B	3
MUSCICAPIDAE			
Common Babbler *Turdoides caudatus*	AH	R, B	2
Large Grey Babbler *Turdoides malcolmi*	S, F	R, B	3
Jungle Babbler *Turdoides striatus*	AH	R, B	2
Whiteheaded Babbler *Turdoides affinis*	AH	R, B	1
Brown Flycatcher *Muscicapa latirostris*	S, G	WM	4
Tickell's Blue Flycatcher *Muscicapa tickelliae*	S, VG	LM	4
Streaked Fantail Warbler *Cisticola juncidis*	F, G	R, B	2
Plain Wren-Warbler *Prinia subflava*	S, F, G	R, B	2
Ashy Wren-Warbler *Prinia socialis*	S, F, G	R, B	2
Jungle Wren-Warbler *Prinia sylvatica*	S, G, VG	R, B?	3
Tailorbird *Orthotomus sutorius*	S, F, VG	R, B	3
Leaf Warbler?? *Phylloscopus* spp.	S	WM	4
Magpie-Robin *Copsychus saularis*	S, G, VG	LM	3
Black Redstart *Phoenicurus ochruros*	S, VG, F	WM	4
Stone Chat *Saxicola torquata*	S, G, F	WM	3
Pied Bush Chat *Saxicola caprata*	G, S	LM	3
Indian Robin *Saxicoloides fulicata*	S, G, F	R, B	2

Name	Habitat	Status	Abundance
Blue Rock Thrush *Monticola solitarius*	S	WM	5
Blackbird *Turdus merula*	F	WM	5
PARIDAE			
Yellowcheeked Tit *Parus xanthogenys*	S	LM	5
MOTACILLIDAE			
Paddyfield Pipit *Anthus novaeseelandiae*	F, G	LM	4
Tawny Pipit *Anthus campestris*	F, G	WM	4
Grey Wagtail *Motacilla cinerea*	F, G, T	WM	3
White Wagtail *Motacilla alba*	F, T	WM	3
Large Pied Wagtail *Motacilla maderaspatensis*	F, T, S, G	R, B	3
DICAEIDAE			
Thickbilled Flowerpecker *Dicaeum agile*	S, F	R, B?	3
Tickell's Flowerpecker *Dicaeum erythrorhynchos*	S, F	R, B?	3
NECTARINIIDAE			
Purplerumped Sunbird *Nectarinia zeylonica*	S, VG	R, B	2
Purple Sunbird *Nectarinia asiatica*	S, VG	R, B	3
PLOCEIDAE			
House Sparrow *Passer domesticus*	AH	R, B	1
Yellowthroated Sparrow *Petronia xanthocollis*	F, G, S	LM	3
Baya *Ploceus philippinus*	S, F, T	R, B	3
Red Munia *Estrilda amandava*	S, F, G	LM	4
Whitethroated Munia *Lonchura malabarica*	S, F, G, VG	R, B	3
Whitebacked Munia *Lonchura striata*	S, F, G	R, B?	3
Spotted Munia *Lonchura punctulata*	S, F, G, VG	R, B	3

Key to Abbreviations

Abundance: 1=Abundant, 2=Common, 3=Uncommon, 4=Occasional, 5=Rare.
Habitat: AH=All Habitats, F=Fields, G=Grassland patches, S=Scrub, T=Tanks, VG=Village Groves. The sequence of appearance of the letters in the above table, indicate the order of preference.
Status: B=Breeder, LM=Local Migrant, R=Resident, V=Vagrant, WM=Winter Migrant, ?=Probable.

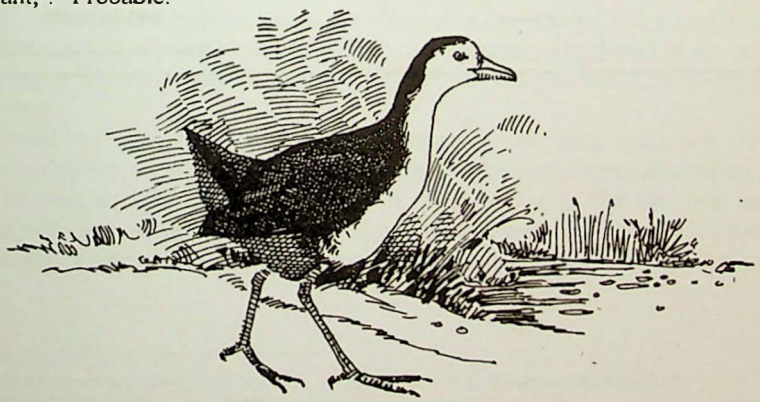
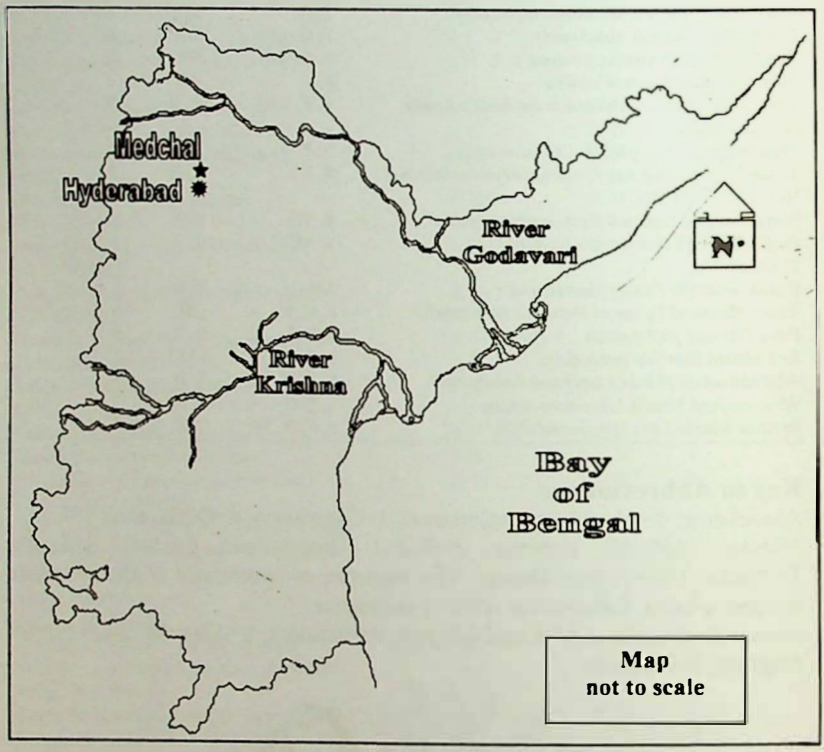


Figure 1
Map featuring the location of Medchal Mandal, Andhra Pradesh



COLONEL RICHARD SPARROW'S EGG COLLECTION OF INDIAN BIRDS

S. SUBRAMANYA[1] & AASHEESH PITTIE[2]

Introduction

In his appreciation of Colonel Richard Sparrow, C.M.G., D.S.O., Pittie (1986) stated that he "was not sure what became of his (Col. Sparrow's) egg collection." When one of us (SS) was in the United Kingdom, he noted that the Colonel's collection of Indian oology was housed in the British Museum of Natural History at Tring. Detailed notes of the collection were taken and are presented here.

Richard Sparrow's egg collections in the British Museum of Natural History at Tring, is in two parts. The India collection (the first part) comprises of some 730 clutches. This also includes eggs collected by other ornithologists from localities outside India (Baluchistan, China, Egypt, England, France, Pakistan, Rumania, Scotland, Spain, Tibet, *etc.*).

Thus, his egg collection, comprising only Indian species has a total of 1,750 eggs from 586 clutches of 162 species (285 including subspecies) collected from 67 localities. This also includes 9 clutches for which the locality information is inadequate. Besides the eggs collected by Sparrow himself, the collection includes contributions from 17 other oologists. Their contributions are presented in Table 1. Despite our best efforts, we have not been able to ascertain the names of two persons who are known only by their initials as S.P.A.B. and R.S.P.W.

The details of the collection that are presented in the Systematic List, are in the order of current name of a species (Ripley, 1982) followed by the name as catalogued in the British Museum of Natural History at Tring, U.K., locality of collection, date of collection, number of eggs collected and, name of collector. For those clutches where the name of a collector is not given, it is assumed that Col. Sparrow collected them. A Gazetteer is provided at the end of the paper and an Appendix carries obituaries of the Colonel from journals of his time.

It will be noted that many place names in the Systematic List are contemporary but were actually different when the specimen was collected *e.g.*, Uttar Pradesh as against United Provinces. This is due to the fact that the transcriptions into a register, from the original labels, were done after 1954 and the transcriber inadvertently or on purpose changed such names to those currently used.

[1] *Address for communication*: PHT Scheme, 'J' Block, G.K.V.K. Campus, University of Agricultural Sciences, Bangalore 560065, India. *E-mail*: subbus@vsnl.com
[2] 8-2-545 Road No. 7, Banjara Hills, Hyderabad 500034, India. *E-mail*: aasheesh@vsnl.in

Table 1

Collector	Species	Clutches
S.P.A.B.	4	8
E.C. Stuart Baker	58	89
H. Beetham	2	3
P. Dodsworth	1	1
Capt. Harris R.H.A.	1	1
A. Reeve Heber	2	2
H.L. Hony	1	1
W. Jesse	1	1
F.C.R. Jourdain	1	1
J.S. Mello	1	1
B.B. Osmaston	9	13
W.A. Payn	9	10
Nissor Singh	1	1
R. Sparrow	159	410
J. Stewart	6	8
R.S.P.W.	1	1
H. Whistler	25	28
S.L. Whymper	2	2
Unknown	5	5

Systematic List

1. LITTLE GREBE *Podiceps ruficollis capensis* Salvadori, 1884
   Podiceps ruficollis capensis: "Tigherry, Deccan", 23-8-1912, 6; 9-9-1912, 6.
2. LARGE EGRET *Casmerodius albus* (Linnaeus), 1758
   Casmerodius albus: Deccan, 5-2-1915, 2.
3. POND HERON *Ardeola grayii* (Sykes), 1832
   Ardeola grayii: "Hissar, Punjab", 16-7-1914, 4, H. Whistler; 20-7-1914, 4, H. Whistler; "Basar, Deccan, India", 10-8-1914, 4; 10-8-1914, 3.
4. CATTLE EGRET *Bubulcus ibis coromandus* (Boddaert), 1783
   Bubulcus ibis coromandus: "Hissar, Punjab", 22-7-1914, 2, H. Whistler.
5. LESSER WHISTLING TEAL *Dendrocygna javanica* (Horsfield), 1821
   Dendrocygna javanica: "Madaram, Deccan, India", 2-9-1914, 1.
6. HONEY BUZZARD *Pernis ptilorhynchus* (Temminck), 1821
   Pernis apivorus: "Eswanteraopet, Deccan, India", 5-4-1913, 1; "Kamaredi, Deccan, India", 8-6-1914, 2.
7. PARIAH KITE *Milvus migrans* (Boddaert), 1783
   Milvus migrans govinda: "Tigherry, Deccan, India", 8-11-1910, 2; 1-2-1912, 2; 20-2-1912, 2;"Masaipet, Deccan, India", 25-1-1913, 2.
8. BRAHMINY KITE *Haliastur indus* (Boddaert), 1783
   Haliastur indus: "Mirzapuly, Deccan, India", 18-2-1911, 2;"Masaipet, Deccan, India", 25-1-1913, 2;"Ellore, Madras, India", 1-2-1913, 3; 2-2-1913, 3.
9. SHIKRA *Accipiter badius* (Gmelin), 1788
   Accipiter badius: "Parkhal, Deccan, India", 25-4-1912, 3; "Eswanteraopet, Deccan, India", 30-4-1914, 3; No data, 3.
10. WHITE-EYED BUZZARD *Butastur teesa* (Franklin), 1832
    Butastur teesa: "Eswanteraopet, Deccan, India", 6-4-1913, 3; 5-4-1913, 3; 17-4-1913, 2.
11. CRESTED HAWK-EAGLE *Spizaetus cirrhatus* (Gmelin), 1788
    Spizaetus cirratus: "Eswanteraopet, Deccan, India", 4-4-1913, 1; 10-4-1913, 1.
12. BONELLI'S EAGLE *Hieraaetus fasciatus* (Vieillot), 1822
    Hieraaetus faciatus: "Navipet, Deccan, India", 2-1-1914, 2; "Tigherry, Deccan, India", ?-?-1926, 2.
13. KING VULTURE *Sarcogyps calvus* (Scopoli), 1786
    Sarcogyps calvus: "Navipet nr. Tigherry, Deccan", 3-1-1914, 1, H. Whistler; "Southern India", ?-?-1912, 1, Capt. Harris, R.H.A.
14. LONGBILLED VULTURE *Gyps indicus* (Scopoli), 1786
    Gyps indicus: "Tigherry, Deccan, India", 21-1-1912, 1; 4-2-1912, 1.
15. WHITEBACKED VULTURE *Gyps bengalensis* (Gmelin), 1788
    Pseudogyps benghalensis: "Jeyt (or Teyt), United Provinces", ?-?-1893, 2, H. Whistler.
16. EGYPTIAN VULTURE *Neophron percnopterus* (Linné), 1758
    Neophron percnopterus ginginianus: "Badusaipet, India", 4-3-1912, 3; "Masaipet, Deccan, India", 15-3-1912, 1; "Tigherry, Deccan, India", 18-3-1912, 1; "Eswanteraopet, Deccan, India", 29-3-1912, 2; 29-3-1912, 2; 29-3-1912, 2; 29-3-1914, 1; 15-4-1913, 1; "Marh, India", undated, 2.
17. BEARDED VULTURE *Gypaetus barbatus* (Linné), 1758
    Gypaetus barbatus: "Mussoorie, India", 21-1-1892, 1, H. Whistler.
18. PAINTED FRANCOLIN *Francolinus pictus* (Jardine & Selby), 1828

Francolinus picatus: "Tigherry, Deccan, India", 30-8-1912, 5.

19. GREY FRANCOLIN *Francolinus pondicerianus* (Gmelin), 1789
Francolinus pondicerianus: "Bezwada, Madras, India", 6-3-1913, 5.

20. RAIN QUAIL *Coturnix coromandelica* (Gmelin), 1789
Coturnix coromandeliaca: "Eswanteraopet, Deccan, India", 10-10-1914, 4.

21. BLUEBREASTED QUAIL *Coturnix chinensis* (Linné), 1766
Excalfactoria chinensis: "Khasi Hills, Assam, India", 23-5-1904, 4, E.C. Stuart Baker.

22. JUNGLE BUSH QUAIL *Perdicula asiatica* (Latham), 1790
Perdicula asiatica asiatica: "Tigherry, Deccan, India", 13-3-1912, 1; "Eswanteraopet, Deccan, India", 11-11-1914, 6.

23. ROCK BUSH QUAIL *Perdicula argoondah* (Sykes), 1832
Perdicula asiatica argoondha: "Tigherry, Deccan, India", 25-10-10, 5; "Eswanteraopet, Deccan, India", 24-7-1914, 6; 11-11-1914, 6.

24. PAINTED BUSH QUAIL *Perdicula erythrorhyncha* (Sykes), 1832
Cryptoplectron erythrorhynchum: "Cardamom Hills, Southern India", 19-3-1914, 1.

25. RED SPURFOWL *Galloperdix spadicea* (Gmelin), 1789
Galloperdix spadicea: "Cardamom Hills, Southern India", 8-3-1914, 1.

26. PAINTED SPURFOWL *Galloperdix lunulata* (Valenciennes), 1825
Galloperdix lunulata: "Eswanteraopet, Deccan, India", 11-4-1913, 4; 24-6-1913, 3; 7-5-1914, 3.

27. RED JUNGLEFOWL *Gallus gallus* (Linné), 1758
Gallus gallus: "Khasi Hills, Assam, India", 2-5-1912, 4, E.C. Stuart Baker; "Dehradun, India", 25-4-1919, 4, E.C. Stuart Baker.

28. LITTLE BUSTARD-QUAIL *Turnix sylvatica dussumier* (Temminck), 1828
Turnix dussumier: "Tigherry, Deccan India", 16-9-1912, 2; "Eswanteraopet, Deccan, India", 28-7-1914, 2; 14-10-??, 5; ?-11-1914, 4; 16-2-1915, 3; ?-7-1916, 4; S'cbad, ?-7-1916, 3; "Tigherry, Deccan India", ?-?-1924, 3; ?-?-1924, 4.

29. BUTTON QUAIL *Turnix tanki* Blyth, 1843
Turnix tanki: "Eswanteraopet, Deccan India", 17-7-1912, 3; "Tigherry, Deccan India", ?-?-1926, 1.

30. COMMON BUSTARD-QUAIL *Turnix suscitator taigoor* (Sykes), 1832
Turnix suscitatur taigoor: "Tigherry, Deccan India", "3-9-1912", 3; "Eswanteraopet, Deccan India", ?-10-1914, 3.

31. RUDDY CRAKE *Porzana fusca fusca* (Linné), 1766
*Porzana fusca baker*i: Naya Bhil, 20-7-1908, 4, per J. Davidson.

32. WHITEBREASTED WATERHEN *Amaurornis phoenicurus* (Pennant), 1769
Amaurornis phoenicurus: "Tigherry, Deccan India", ?-7-1925, 4.

33. PURPLE MOORHEN *Porphyrio porphyrio poliocephalus* (Latham), 1801
Porphyrio poliocephalus: No data, 26-8-1914, 4; "Navipet, Deccan, India", 26-8-1914, 5; 26-8-1914, 8.

34. COOT *Fulica atra* Linné, 1758
Fulica atra: "Basar, Deccan, India", 11-8-1914, 8.

35. PHEASANT-TAILED JACANA *Hydrophasianus chirurgus* (Scopoli), 1786
Hydrophasianus chirurgus: "Basar, Deccan, India", 10-8-1914, 3; 11-8-1914, 3; 11-8-1914, 4.

36. PAINTED SNIPE *Rostratula benghalensis* (Linné), 1758

Rostratula benghalensis: "Silchar, Cachar, Assam, India", 23-7-1900, 4, E.C. Stuart Baker.

37. STONE CURLEW *Burhinus oedicnemus* (Linné), 1758
Burhinus oedicnemus: "Eswanteraopet, Deccan, India", 14-4-1913, 2; 31-3-1914, 2.

38. GREAT STONE PLOVER *Esacus magnirostris recurvirostris* (Cuvier), 1829
Esacus recurvirostris: "Bezwada, Madras, India", 14-3-1913, 2; 13-2-1914, 2; 14-2-1914, 2.

39. SMALL INDIAN PRATINCOLE *Glareola lactea* Temminck, 1820
Glareola lactea: "Bezwada, Madras, India", 21-3-1913, 4; 21-3-1913, 4; 21-3-1913, 4; 21-3-1913, 3; 21-3-1913, 3; 22-3-1913, 4.

40. REDWATTLED LAPWING *Vanellus indicus* (Boddaert), 1783
Lobivenellus indicus: "Tigherry, Deccan India", 26-6-1911, 1, R.S.P.W.; Inderaoti R. Central Provinces, 23-5-1912, 2.

41. SPURWINGED PLOVER *Vanellus spinosus duvaucelii* (Lesson), 1826
Hoplopterus duvaucelii: "Kuay R., Dharbhanga, B.&O., India", 5-4-1902, 2, H.L. Hony.

42. YELLOW-WATTLED LAPWING *Vanellus malabaricus* (Boddaert), 1783
Lobipluvia malabarica: "Tigherry, Deccan, India", 16-5-1914, 2; 16-5-1914, 4; 19-5-1914, 4; ?itmutla, 28-5-1914, 3.
Lobivenellus indicus: "Eswanteraopet, Deccan, India", 4-4-1914, 4; 12-5-1914, 4; 13-5-1914, 4; "Basar, Deccan, India", 16-8-1914, 4.

43. LITTLE RINGED PLOVER *Charadrius dubius jerdoni* (Legge), 1880
Charadrius dubius jerdoni: "Bezwada, Madras, India", 21-3-1913, 3; 8-4-1913, 3.

44. WOODCOCK *Scolopax rusticola* Linné, 1758
Scolopax rusticola: "Kashmir, India", 22-4-1919, 2, per E.C. Stuart Baker.

45. WHISKERED TERN *Chlidonias hybrida* (Pallas), 1811
Chlidonias hybrida: "Silchar, Cachar, Assam, India", 17-7-1912, 3.

46. INDIAN RIVER TERN *Sterna aurantia* J.E. Gray, 1831
Sterna aurentia: Inderaoti R. Central Provinces, 19-5-1912, 2; "Bezwada, Madras, India", 6-3-1913, 3; 18-3-1913, 3; 18-3-1913, 3; 19-3-1913, 3.

47. BLACKBELLIED TERN *Sterna acuticauda* J.E. Gray, 1831? (1830-1832)
Sterna melanogaster: "Bezwada, Madras, India", 4-3-1913, 3; 19-3-1913, 3; 19-3-1913, 3; 7-4-1913, 3.

48. INDIAN SKIMMER *Rynchops albicollis* Swainson, 1837
Rhynchops albicollis: Inderaoti R. Central Provinces, 19-5-1919, 3; 19-5-1919, 2; "Bezwada, Madras, India", 19-5-1912, 3; 6-3-1913, 2; 7-4-1913, 2.

49. INDIAN SANDGROUSE *Pterocles exustus erlangeri* (Neumann), 1909
Pterocles exustus hindustan: "Umri, India", 8-2-1911, 3; "Eswanteraopet, Deccan, India", ?-3-1916, 2.

50. PAINTED SANDGROUSE *Pterocles indicus* (Gmelin), 1789
Pterocles indicus: "Eswanteraopet, Deccan, India", 9-5-1914, 3; "Mulkaram, India", 20-11-1914, 3; "Eswanteraopet, Deccan, India", ?-3-1925, 3, J.S. Mello.

51. GREYFRONTED GREEN PIGEON *Treron pompadora affinis* (Jerdon), 1840
Treron pompadora affinis: "Cardomom Hills, Travancore, India", 23-3-1914, 2.

52. GREEN PIGEON *Treron phoenicoptera chlorigaster* (Blyth), 1843
Treron phoenicoptera chlorigaster: "Muttra, United Provinces, India", ?-6-1892, 2.

53. IMPERIAL PIGEON *Ducula badia cuprea* (Jerdon), 1840

Ducula badia cuprea: "Cardamom Hills, Travancore, India", 24-3-1914, 1, 25-4-1914, 1.

54. BLUE ROCK PIGEON *Columba livia intermedia* Strickland, 1844
Columba levia intermedia: "Muttra, United Provinces, India", ?-7-1892, 2.

55. INDIAN RING DOVE *Streptopelia decaocto* (Frivaldszky), 1838
Streptopelia decaocto: "Muttra, United Provinces, India", 29-8-1892, 2; "Pamah, India", 11-1-1911, 2.

56. RED TURTLE DOVE *Streptopelia tranquebarica* (Hermann), 1804
Streptopelia tranquebarica: "Tigherry, Deccan, India", 20-2-1913, 2; 18-3-1913, 2.

57. SPOTTED DOVE *Streptopelia chinensis suratensis* (Gmelin), 1789
Streptopelia chinensis suratensis: "Tigherry, Deccan, India", 1-11-1916, 2, 26-1-1913, 2.

58. LITTLE BROWN DOVE *Streptopelia senegalensis cambayensis* (Gmelin), 1789
Streptopelia senegalensis cambayensis: Masaipet India, 11-2-1912, 2; Tigherry India, 12-4-1913, 2.

59. EMERALD DOVE *Chalcophaps indica* (Linné), 1758
Chalcophaps Indica: "Cardamom Hills, Travancore, India", 17-3-1914, 2; 4-4-1914, 2.

60. ROSERINGED PARAKEET *Psittacula krameri manillensis* (Bechstein), 1800
Psittacula eupatria manillensis: "Naigoan, Central Provinces, India", 31-12-1913, 3; 4-1-1914, 3; "Warrangal, Hyderabad, India", 1-2-1913, 4; "Eswanteraopet, Deccan, India", 18-1-1914, 6; 18-1-1914, 5.

61. BLOSSOMHEADED PARAKEET *Psittacula cyanocephala* (Linné), 1766
Psittacula cyanocephala: "Eswanteraopet, Deccan, India", 3-3-1914, 4.

62. REDWINGED CRESTED CUCKOO *Clamator coromandus* (Linné), 1766 with BROWNCAPPED LAUGHING THRUSH *Garrulax austeni austeni* (Godwin-Austen), 1870.
Clamator coromandus with *Grammatoptila striata austeni*: "Shillong, Khasi Hills, India", 9-5-1919, 2, u. Nissor Singh.

63. PIED CRESTED CUCKOO *Clamator jacobinus* (Boddaert), 1783
Clamator jacobinus: "Tigherry Hyderabad, India", 13-6-1911, 1, S.P.A.B.

64. *Ibid* with JUNGLE BABBLER *Turdoides striatus striatus* (Dumont), 1823
C. jacobinus with *Turdoides terricolor*: "Eswanteraopet, Hyderabad, India", 3-7-1913, 1+2

65. PLAINTIVE CUCKOO *Cacomantis passerinus* (Vahl), 1797 with ASHY WREN-WARBLER *Prinia socialis* Sykes, 1832
Cacomantis merulinus passerinus with *Prinia socialis*: "Tigherry Hyderabad, India", 24-8-1912, 1+2; 18-7-1913, 2+2.

66. KOEL *Eudynamys scolopacea* (Linné), 1758
Eudynamys scolopacea: "Muttra, United Provinces, India", ?-6-1892, 2; "Tigherry, Hyderabad, India", 27-5-1911, 2; "Eswanteraopet, Hyderabad, India", 10-6-1914, 2; 13-6-1914, 1.

67. SIRKEER CUCKOO *Taccocua leschenaultii* Lesson, 1830
Taccocua leschenaultii: "Eswanteraopet, Hyderabad, India", 18-6-1914, 3; 8-8-1914, 4.

68. CROW-PHEASANT *Centropus sinensis* (Stephens), 1815
Centropus sinensis: "Eswanteraopet, Hyderabad, India", 11-7-1914, 3; 26-7-1914, 4.

69. COLLARED SCOPS OWL *Otus bakkamoena* Pennant, 1769
Scops bakkamoena?: "Eswanteraopet, Hyderabad, India", 21-2-1914, 2.
70. GREAT HORNED OWL *Bubo bubo bengalensis* (Franklin), 1831
Bubo bubo bengalensis: "Eswanteraopet, India", 5-11-1914, 2;"Deolali, Bombay, India", 15-12-1913, 2;"Eswanteraopet, India", 5-11-1914, 2.
71. DUSKY HORNED OWL *Bubo coromandus* (Latham), 1790
Bubo coromandus: "Etah, United Provinces", 28-12-1904, 2, per E.C. Stuart Baker.
72 BROWN FISH OWL *Bubo zeylonensis leschenault* (Temminck), 1820
Ketupa zeylonensis leschenault: "Eswanteraopet, Hyderabad, India", 28-1-1914, 1; 15-12-1914, 2.
73. SPOTTED OWLET *Athene brama* (Temminck), 1821
Athene brama: "Trimulgherry, Hyderabad, India", 17-3-1912, 5.
74. MOTTLED WOOD OWL *Strix ocellata* (Lesson), 1839
Strix ocellata: "Eswanteraopet, Hyderabad, India", 31-12-1913, 2; 7-3-1914, 1; 1-4-1914, 1.
75. CEYLON FROGMOUTH *Batrachostomus moniliger* Blyth, 1846
Batrachostomus moniligar: Travancore, 25-4-1914, 1, Stewart.
76. GREAT EARED NIGHTJAR *Eurostopodus macrotis bourdilloni* (Hume), 1875
Eurostopodus macrotis bourdilloni: Travancore, 8-3-1913, 1, Stewart for E.C. Stuart Baker.
77. JUNGLE NIGHTJAR *Caprimulgus indicus indicus* Latham, 1790
Caprimulgus indicus indicus: "Eswanteraopet, Hyderabad, India", 19-4-1914, 2; 6-5-1914, 2; 24-5-1914, 1.
78. INDIAN NIGHTJAR *Caprimulgus asiaticus asiaticus* Latham, 1790
Caprimulgus asiaticus asiaticus: "Muthpalli, Central Provinces, India", 3-5-1912, 2; "Tigherry, Hyderabad, India", 23-7-1912, 2; 30-7-1912, 2; "Eswanteraopet, Hyderabad, India", 15-3-1913, 2; 16-6-1914, 2; 18-6-1914, 2; -2-1916, 2.
79. FRANKLIN'S NIGHTJAR *Caprimulgus affinis monticolus* Franklin, 1831
Caprimulgus monticolus monticolus: "Muttra, United Provinces, India", ?-?-1892, 1; Mussoorie, 9-6-1912, 2, H.W. (H. Whistler).
80. LARGE BROWNTHROATED SPINETAIL SWIFT *Chaetura gigantea indica* Hume, 1873
Hirundapus giganteus indicus: Travancore, 4-4-1913, 3, Stewart.
81. HOUSE SWIFT *Apus affinis affinis* (J.E. Gray), 1830
Apus affinis affinis: "Tigherry, Hyderabad, India", 15-2-1912, 2.
82. PALM SWIFT *Cypsiurus balasiensis* (J.E. Gray), 1829
Cypsiurus parvus balasiensis: "Tigherry, Hyderabad, India", 27-2-1911, 2.
83. CRESTED SWIFT *Hemiprocne longipennis coronata* (Tickell), 1833
Hemiprocne longipennis coronata: "Eswanteraopet, Hyderabad, India", 25-6-1914, 1.
84. BLYTH'S KINGFISHER *Alcedo hercules* Laubmann, 1845
Alcedo hercules: N. Cachar, 21-6-1892, 1, E.C. Stuart Baker.
85. COMMON KINGFISHER *Alcedo atthis* (Linné), 1758
Alcedo atthis: "Tigherry, Hyderabad, India", 17-3-1912, 5.
86. STORKBILLED KINGFISHER *Pelargopsis capensis capensis* (Linné), 1766
Pelargopsis capensis gurial: "Muthpalli, Central Provinces, India", 7-5-1912, 6.
87. WHITEBREASTED KINGFISHER *Halcyon smyrnensis* (Linné), 1758

Halcyon smyrnensis: "Tigherry, Hyderabad, India", 18-7-1912, 4; "Eswanteraopet, Hyderabad, India", 29-5-1913, 5; "Saugor, Central Provinces, India", 13-4-1913, 6.

88. CHESTNUTHEADED BEE-EATER *Merops leschenaulti leschenaulti* Vieillot, 1817
Merops leschenaulti leschenaulti: "Cardamom Hills, Southern India", 15-3-1914, 1.

89. BLUECHEEKED BEE-EATER *Merops superciliosus persicus* Pallas, 1773
Merops superciliosus phillipinus: "Bezwada, Madras, India", 30-3-1914, 6; 5-4-1914, 6; 6-4-1914, 6; 7-4-1914, 6.

90. GREEN BEE-EATER *Merops orientalis* Latham, 1801
Merops orientalis: "Tigherry, Hyderabad, India", 24-3-1913, 7; 19-4-1914, 5.

91. INDIAN ROLLER *Coracias benghalensis* (Linné), 1758
Coracias benghalensis: "Manohorabad, India", 27-3-1913, 4; "Eswanteraopet, Hyderabad, India", 11-4-1913, 4.

92. HOOPOE *Upupa epops* Linné, 1758
Upupa epops: "Tigherry, Hyderabad, India", 6-2-1912, 6; 22-2-1914, 5.

93. COMMON GREY HORNBILL *Ocyceros birostris* (Scopoli), 1786
Tocus birostris: "Eswanteraopet, Hyderabad, India", 31-3-1914, 4; ?-3-1916, 5; ?-3-1916, 4.

94. GREEN BARBET *Megalaima zeylanica* (Gmelin), 1788
Megalaima zeylanica: "Eswanteraopet, Hyderabad, India", 18-3-1913, 4.

95. SMALL GREEN BARBET *Megalaima viridis* (Boddaert), 1783
Megalaima viridis: "Malappuram, S. Malabar (Madras)", 20-3-1912, 3, S.P.A.B.

96. COPPERSMITH *Megalaima haemacephala indica* (Latham), 1788
Megalaima haematocephala indica: "Tigherry, Hyderabad, India", 9-2-1912, 1; 14-2-1913, 2; 9-4-1913, 1; 11-2-1914, 2; 27-2-1914, 3.

97. BLACKNAPED GREEN WOODPECKER *Picus canus* Gmelin, 1788
Picus canus: "Khasi Hills, Assam, India", 2-5-1914, 3, E.C. Stuart Baker per H. Whistler.

98. SMALL YELLOWNAPED WOODPECKER *Picus chlorolophus* Vieillot, 1818
Picus chlorolophus: "Khasi Hills, Assam, India", 4-6-1909, 2, E.C. Stuart Baker per H. Whistler.

99. LESSER GOLDENBACKED WOODPECKER *Dinopium benghalense* (Linné), 1758
Dinopium benghalense: "Masaipet, Hyderabad, India", 28-1-1913, 3; "Eswanteraopet, Hyderabad, India", 14-1-1914, 4.

100. BROWNFRONTED PIED WOODPECKER *Picoides auriceps* (Vigors), 1831
Dendrocopus auriceps: "Simla, Punjab, India", 14-5-1914, 3, P. Dodsworth.

101. YELLOWFRONTED PIED WOODPECKER *Picoides mahrattensis* (Latham), 1801
Dendrocopus mahrattensis mahrattensis: "Jalna, Hyderabad, India", 25-1-1911, 3.

102. GREYCROWNED PIGMY WOODPECKER *Picoides canicapillus* (Blyth), 1845
Dendrocopus canicapillus: "Khasi Hills, Assam, India", 2-5-1908, 4, E.C. Stuart Baker per H. Whistler.

103. PIGMY WOODPECKER *Picoides nanus hardwickii* (Jerdon), 1844
Dendrocopus moluccensis hardwickii: "Eswanteraopet, Hyderabad, India", ?-3-1914, 3.

104. HEARTSPOTTED WOODPECKER *Hemicircus canente* (Lesson), 1830

Hemicircus canente: "Margherita, Assam, India", 22-4-1914, 3, E.C. Stuart Baker per H. Whistler.

105. BLACKBACKED WOODPECKER *Chrysocolaptes festivus festivus* (Boddaert), 1783
Chrysocolaptes festivus festivus: "Eswanteraopet, Hyderabad, India", 22-12-14, 2.

106. LONGTAILED BROADBILL *Psarisomus dalhousiae dalhousiae* (Jameson), 1835
Psarisomus dalhousiae dalhousiae: "Khasi Hills, Assam, India", 28-6-1893, 4, E.C. Stuart Baker.

107. BLUENAPED PITTA *Pitta nipalensis nipalensis* (Hodgson), 1837
Pitta nepalensis nipalensis: "Khasi Hills, Assam, India", 8-6-1914, 3, E.C. Stuart Baker; 2-8-1912, 4, E.C. Stuart Baker; 6-5-1912, 4, E.C. Stuart Baker.

108. INDIAN PITTA *Pitta brachyura brachyura* (Linné), 1766
Pitta brachyura brachyura: "Eswanteraopet, Hyderabad, India", 7-7-1913, 5.

109. SINGING BUSH LARK *Mirafra javanica cantillans* Blyth, 1844-1845
Mirafra javanica cantillans: "Tigherry, Hyderabad, India", 22-3-1911, 2; 17-4-1911, 2; 22-4-1912, 2.

110. REDWINGED BUSH LARK *Mirafra erythroptera erythroptera* Blyth, 1845 (1844)
Mirafra erythroptera erythroptera: "Tigherry, Hyderabad, India", 24-4-1912, 3; 7-5-1912, 3; 19-5-1914, 3; "Eswanteraopet, Hyderabad, India", 13-3-1913, 2.

111. ASHYCROWNED FINCH-LARK *Eremopterix grisea* (Scopoli), 1786
Eremopterix grisea: "Tigherry, Hyderabad, India", 21-11-1910, 2; 19-10-1911, 2; 27-3-1911, 2; "Jalna, Hyderabad, India", 22-1-1911, 3.

112. RUFOUSTAILED FINCH-LARK *Ammomanes phoenicurus phoenicurus* (Franklin), 1831
Ammomanes phoenicurus phoenicurus: "Tigherry, Hyderabad, India", 13-3-1914, 3; 8-4-1914, 3; 28-2-1913, 3.

113. MALABAR CRESTED LARK *Galerida malabarica* (Scopoli), 1786
Galerida malabarica: "Cardamom Hills, Travancore, Southern India", 5-3-1914, 3.

114. SYKES'S CRESTED LARK *Galerida deva* (Sykes), 1832
Galerida deva: "Tigherry, Hyderabad, India", 9-9-1912, 3; 23-8-1912, 3; 20-8-1913, 3; 18-7-1912, 3; 25-9-1912, 3.

115. EASTERN SKYLARK *Alauda gulgula lhamarum* R. & A. Meinertzhagen, 1926
Alauda gulgula lhamarum: "Leh, Kashmir", 19-6-1923, 4, A. Reeve Heber per H. Whistler; "Muttra, United Provinces, India", ?-7-1892, 4.

116. DUSKY CRAG MARTIN *Hirundo concolor concolor* Sykes, 1833
Ptyonoprogne concolor concolor: "Tigherry, Hyderabad, India", 12-8-1912, 3; 22-8-1912, 3.

117. WIRETAILED SWALLOW *Hirundo smithii filifera* Stephens, 1825
Hirundo smithi filifera: "Tigherry, Hyderabad, India", 27-1-1913, 3; 11-9-1912, 3.

118. INDIAN CLIFF SWALLOW *Hirundo fluvicola* Blyth, 1855
Petrochelidon fluvicola: "Purnah, (N. Hyderabad), India", 3-2-1911, 3; 3-2-1911, 3.

119. REDRUMPED SWALLOW *Hirundo daurica nipalensis* Hodgson, 1836
Cecropsis daurica nepalensis: "Simla, N., India", 21-8-1918, 1, H. Whistler.

120. REDRUMPED SWALLOW *Hirundo daurica erythropygia* Sykes, 1832
Cecropsis daurica erythropygia: "Tigherry, Hyderabad, India", 24-9-1912, 3.

121. GREY SHRIKE *Lanius excubitor* Linné, 1758
Lanius excubitor: "Tigherry, Hyderabad, India", 3-3-1912, 4; 1-3-1912, 4; 21-3-1911, 4; 30-3-1912, 4.

122. BAYBACKED SHRIKE *Lanius vittatus vittatus* Valenciennes, 1826
Lanius vittatus vittatus: "Tigherry, Hyderabad, India", 27-3-1912, 4; 20-4-1914, 3; 25-2-1911, 3; 15-4-1912, 3; 20-3-1912, 4.

123. RUFOUSBACKED SHRIKE *Lanius schach erythronotus* (Vigors), 1831
Lanius schach erythronotus: "Tigherry, Hyderabad, India", 23-6-1914, 5; 9-7-1914, 5; 4-7-1912, 5; 22-6-1912, 5; 6-7-1912, 4; "Naripet, Hyderabad, India", 14-8-1914, 4.

124. GOLDEN ORIOLE *Oriolus oriolus kundoo* Sykes, 1832
Oriolus oriolus kundoo: "Eswanteraopet, Hyderabad, India", 2-7-1914, 2; 25-6-1912, 3.

125. BLACK DRONGO *Dicrurus adsimilis macrocercus* Vieillot, 1817
Dicrurus macrocercus macrocercus: "Tigherry, Hyderabad, India", 17-6-1912, 3; 19-6-1912, 4; 17-6-1911, 3; "Eswanteraopet, Hyderabad, India", 10-7-1912, 3; Jitmhtlae (Hyderabad?) India, 20-5-1914, 3.

126. GREY DRONGO *Dicrurus leucophaeus longicaudatus* Hay, 1845
Dicrurus leucophaeus longicaudatus: "Sehore, Bhopal, India", ?-?-?, 2, E.C. Stuart Baker.

127. WHITEBELLIED DRONGO *Dicrurus caerulescens caerulescens* (Linné), 1758
Dicrurus caerulescens caerulescens: "Deccan, India", 17-4-1912, 2, E.C. Stuart Baker.

128. LESSER RACKET-TAILED DRONGO *Dicrurus remifer tectirostris* (Hodgson), 1836
Dicrurus remifer tectirostris: "Khasi Hills, Assam, India", 29-4-1912, 3, E.C. Stuart Baker; "Travancore, India", 29-4-1912, 3, J. Stewart; 20-4-1921, 3, J. Stewart.

129. GREYHEADED MYNA *Sturnus malabaricus blythii* (Jerdon), 1844
Sturnus malabaricus blythii: "Kumili, Travancore, India", 4-4-1914, 2.

130. BRAHMINY MYNA *Sturnus pagodarum* (Gmelin), 1789
Sturnus pagodarum: "Tigherry, Hyderabad, India", 16-5-1911, 3, S.P.A.B.; 20-5-1911, 3, S.P.A.B.

131. PIED MYNA *Sturnus contra* Linné, 1758
Sturnus contra: "Mathura, Uttar Pradesh, India", 26-8-1892, 4.

132. COMMON MYNA *Acridotheres tristis tristis* (Linné), 1766
Acridotheres tristis tristis: "Tigherry, Hyderabad, India", 1-7-1912, 5; 13-6-1912, 4.

133. BANK MYNA *Acridotheres ginginianus* (Latham), 1790
Acridotheres ginginianus ginginianus: "Hissar, Punjab, India", 13-6-1914, 3.

134. JUNGLE MYNA *Acridotheres fuscus mahrattensis* (Sykes), 1832
Acridotheres fuscus mahrattensis: "Kumili, Travancore, India", 4-4-1914, 1, H. Whistler.

135. HILL MYNA *Gracula religiosa indica* (Cuvier), 1829
Gracula religiosa indica: "Cardamom Hills, Travancore, India", 8-3-1914, 3.

136. BLACKTHROATED JAY *Garrulus lanceolatus* Vigors, 1831
Garrulus lanceolatus: "Patiala, India", 15-5-1911, 3, E.C. Stuart Baker.

137. GREEN MAGPIE *Cissa chinensis chinensis* (Boddaert), 1783

Kitta chinensis chinensis: "Khasi Hills, Assam, India", 21-6-1912, 3, E.C. Stu
Baker; 27-4-1912, 5, E.C. Stuart Baker; 5-5-1912, 3, E.C. Stuart Baker.

138. INDIAN TREE PIE *Dendrocitta vagabunda vernayi* Kinnear & Whistler, 1930
Crypsirina vagabunda vernayi: "Eswanteraopet, Hyderabad, India", 17-6-1914,
24-4-1914, 3; 5-7-1914, 3; 7-7-1914, 4; 19-7-1914, 5; 20-6-1914, 4; 20-6-1914, 4

139. SOUTHERN TREE PIE *Dendrocitta leucogastra* Gould, 1833
Crypsirina leucogastra: "Travancore, India", 22-3-1914, 2, Stewart.

140. REDBILLED CHOUGH *Pyrrhocorax pyrrhocorax himalayanus* (Gould), 1862
Pyrrhocorax pyrrhocorax himalayanus: "Leh, Ladakh, Kashmir", 14-5-1925, 2,
Reeve Heber.

141. HOUSE CROW *Corvus splendens splendens* Vieillot, 1817
Corvus splendens splendens: "Trimulgherry, Hyderabad, India", 20-5-1911,
S.P.A.B.; 25-5-1911, 2, S.P.A.B.; 25-8-1911, 5, S.P.A.B.; 25-5-1911, 6, S.P.A.B.

142. JUNGLE CROW *Corvus macrorhynchos culminatus* Sykes, 1832
Corvus macrorhynchos culminatus: "Eswanteraopet, Hyderabad, India
26-5-1914, 4; 24-5-1914, 4; 16-5-1914, 5; 22-4-1913, 4; 22-4-1913, 4.

143. JUNGLE CROW *Corvus macrorhynchos intermedius* Adams, 1859
Corvus macrorhynchos intermedius: "Dharmasala, Kangra, Uttar Pradesh, India"
26-4-1922, 4, H. Whistler.

144. CARRION CROW *Corvus corone orientalis* Eversmann, 1841
Corvus crone orientalis: "Spiti, India", 16-5-1923, 1, H. Whistler.

145. COMMON WOOD SHRIKE *Tephrodornis pondicerianus* (Gmelin), 1789
Tephrodornis pondicerianus: "Tigherry, Hyderabad, India", 29-4-1912, 3
5-4-1912, 4; 11-4-1912, 3.

146. LARGE CUCKOO-SHRIKE *Coracina novehollandiae macei* (Lesson), 1830
Coracina novehollandiae macei: "Lucknow, Uttar Pradesh, India", 23-7-1901, 1
W. Jesse

147. BLACKHEADED CUCKOO-SHRIKE *Coracina melanoptera melanoptera*
(Rüppell), 1839
Coracina melanoptera melanoptera: "Shillong, Khasi Hills, Assam, India", 3-6-
1912, 2, E.C. Stuart Baker.

148. BLACKHEADED CUCKOO-SHRIKE *Coracina melanoptera sykesi* (Strickland),
1844
Coracina melanoptera sykesi: "Eswanteraopet, Hyderabad, India", 11-7-1914, 3;
8-7-1914, 3; "Tigherry, Hyderabad, India", 19-7-1912, 2; 8-8-1912, 3.

149. SMALL MINIVET *Pericrocotus cinnamomeus cinnamomeus* (Linné), 1766
Pericroctus cinnamomeus cinnamomeus: "Tigherry, Hyderabad, India", 21-8-1912,
3; 27-6-1914, 3; 6-4-1912, 3; 19-7-1912, 3; "Eswanteraopet, Hyderabad, India",
9-8-1919, 3; 22-6-1913, 3.

150. COMMON IORA *Aegithina tiphia deignani* Hall, 1957
Aegithina tiphia deignani: "Tigherry, Hyderabad, India", 11-4-1912, 3; 11-9-1912,
2; 18-8-1912, 3; 4-9-1912, 3; "Eswanteraopet, Hyderabad, India", 7-7-1912, 3.

151. GOLDMANTLED CHLOROPSIS *Chloropsis cochinchinensis jerdoni* (Blyth),
1844
Chloropsis cochinchinensis jerdoni: "Eswanteraopet, Hyderabad, India",
28-6-1913, 2; ?-7-1916, 2; 2-4-1919, 2.

152. FINCHBILLED BULBUL *Spizixos canifrons canifrons* Blyth, 1845

Spizixos canifrons canifrons: "Shillong, Khasi Hills, Assam, India", 25-6-1912, 2, E.C. Stuart Baker.

153. REDWHISKERED BULBUL *Pycnonotus jocosus fuscicaudatus* (Gould), 1866
Pycnonotus jocosus fuscicaudatus: "Cardamom Hills, Travancore, Southern India", 13-3-1914, 3; 15-3-1914, 2.

154. WHITECHEEKED BULBUL *Pycnonotus leucogenys leucogenys* (Gray), 1835
Pycnonotus leucogynes leucogynes: "Kangra, 2,400ft. N. Punjab", 12-4-1923, 3, H. Whistler.

155. REDVENTED BULBUL *Pycnonotus cafer cafer* (Linné), 1766
Pycnonotus cafer pusillus: "Tigherry, Hyderabad, India", 24-10-1910, 3; 8-4-1911, 3; 5-4-1911, 3.

156. REDVENTED BULBUL *Pycnonotus cafer bengalensis* Blyth, 1845
Pycnonotus cafer bengalensis: "Raniket, Uttar Pradesh, India", 10-5-1903, 2, W.A. Payn; 24-4-1903, 1, W.A. Payn.

157. REDVENTED BULBUL *Pycnonotus cafer intermedius* Blyth, 1846
Pycnonotus cafer intermedius: "Muttra, Uttar Pradesh, India", 30-8-1892, 2.

158. BLYTH'S BULBUL *Pycnonotus flavescens flavescens* Blyth, 1845
Pycnonotus flavescens flavescens: "Khasi Hills, Assam, India", 6-6-1910, 2, E.C. Stuart Baker.

159. WHITEBROWED BULBUL *Pycnonotus luteolus luteolus* (Lesson), 1841
Pycnonotus luteolus luteolus: "Tigherry, Hyderabad, India", 4-1-1912, 2.

160. WHITETHROATED BULBUL *Criniger flaveolus flaveolus* (Gould), 1836
Criniger flaveolus flaveolus: "Khasi Hills, Assam, India", 20-6-1912, 2, E.C. Stuart Baker.

161. YELLOWBROWED BULBUL *Hypsipetes indicus indicus* (Jerdon), 1839
Hypsipetes indicus indicus: "Cardamom Hills, Travancore, Southern India", 23-3-1914, 2.

162. RUFOUSBELLIED BULBUL *Hypsipetes mcclellandi mcclellandi* Horsfield, 1840
Hypsipetes mcclellandi mcclellandi: "Khasi Hills, Assam, India", 14-5-1910, 2, E.C. Stuart Baker; "Shillong, Khasi Hills, Assam, India", 3-6-1912, 2, E.C. Stuart Baker.

163. BLACK BULBUL *Hypsipetes madagascariensis psaroides* Vigors, 1831
Hypsipetes madagascariensis psaroides: "Kulu Valley, N. India, 4,000ft", ?-6-1921, 3, H. Whistler.

164. BLACK BULBUL *Hypsipetes madagascariensis nigrescens* Baker, 1917
Hypsipetes madagascariensis nigrescens: "Khasi Hills, Assam, India", 8-6-1912, 3, E.C. Stuart Baker.

165. SPOTTED BABBLER *Pellorneum ruficeps mandellii* Blanford, 1871
Pellorneum ruficeps Mandelli: "Khasi Hills, Assam, India", 28-12-1912, 3, E.C. Stuart Baker; 20-5-1913, 3, E.C. Stuart Baker.

166. SPOTTED BABBLER *Pellorneum ruficeps olivaceum* Jerdon, 1839
Pellorneum ruficeps granti: "Travancore, India", 9-4-1911, 3, Stewart.

167. BROWN BABBLER *Pellorneum albiventre ignotum* Hume, 1877
Pellorneum albiventre ignotum: India, 17-5-1903, 4, B.B. Osmaston; "Khasi Hills, Assam, India", 15-1-1912, 3, E.C. Stuart Baker; "Khasi Hills, Assam, India", 24-6-1912, 4, E.C. Stuart Baker.

168. TICKELL'S BABBLER *Trichastoma tickelli* (Blyth), 1859

Malacocincla tickelli tickellii: "Shillong, Khasi Hills, Assam, India", 29-6-1912, 4, E.C. Stuart Baker; 30-6-1912, 4, E.C. Stuart Baker.

169. TICKELL'S BABBLER *Trichastoma tickelli* (Blyth), 1859
Malacocincla tickelli tickellii: "Shillong, Khasi Hills, Assam, India", 29-6-1912, 4, E.C. Stuart Baker; 30-6-1912, 4, E.C. Stuart Baker.

170. SLATYHEADED SCIMITAR BABBLER *Pomatorhinus horsfieldii cryptanthus* Hartert, 1915
Pomatorhinus schisticeps cryptanthus: "Khasi Hills, Assam, India", 3-6-1912, 3, E.C. Stuart Baker.

171. SLATYHEADED SCIMITAR BABBLER *Pomatorhinus horsfieldii obscurus* Hume, 1872
Pomatorhinus horsfieldii obscurus: "?, India", 1-5-1905, 2, E.C. Stuart Baker.

172. RUSTYCHEEKED SCIMITAR BABBLER *Pomatorhinus erythrogenys haringtoni* Baker, 1914
Pomatorhinus erythrogenys haringtoni: "Mussoorie, Gharwal, Uttar Pradesh, India", 17-5-1906, 1, E.C. Stuart Baker.

173. CORALBILLED SCIMITAR BABBLER *Pomatorhinus ferruginosus phayrei* Blyth, 1847
Pomatorhinus ferruginosus phayrei: "Khasi Hills, Assam, India", 19-6-1912, 3, E.C. Stuart Baker.

174. BLACKTHROATED BABBLER *Stachyris nigriceps nigriceps* Blyth, 1844
Stachyris nigriceps nigriceps: "Khasi Hills, Assam, India", 25-6-1912, 4, E.C. Stuart Baker; 23-6-1912, 4, E.C. Stuart Baker.

175. RUFOUSBELLIED BABBLER *Dumetia hyperythra hyperythra* (Franklin), 1831
Dumetia hyperythra hyperythra: "Eswanteraopet, Hyderabad, India", 8-7-1914, 4; 8-8-1913, 4; 14-7-1912, 3; ? Hyderabad India, 11-7-1914, 4.

176. YELLOWEYED BABBLER *Chrysomma sinense sinense* (Gmelin), 1789
Chrysomma sinense sinense: "Tigherry, Hyderabad, India", 13-9-1912, 3; 1-7-1912, 4; 15-8-1912, 4; 20-8-1912, 4; "Eswanteraopet, Hyderabad, India", 30-8-1911, 4.

177. COMMON BABBLER *Turdoides caudatus caudatus* (Dumont), 1823
Turdoides caudatus caudatus, "Tigherry, Hyderabad, India", 2-4-1912, 4; 31-3-1912, 3; 11-7-1912, 4.

178. COMMON BABBLER *Turdoides caudatus* (Dumont) with PIED CRESTED CUCKOO *Clamator jacobinus jacobinus* (Boddaert), 1783
T. caudatus with *Clamator j. jacobinus*: "Tigherry, Hyderabad, India", 22-7-1912, 2.

179. *Ibid.*
Turdoides c. caudatus with *C. jacobinus*: "Tigherry, Hyderabad, India", 22-7-1912, 1.

180. LARGE GREY BABBLER *Turdoides malcolmi* (Sykes), 1832
Turdoides malcolmi: "Eswanteraopet, Hyderabad, India", 26-7-1914, 5; 5-8-1914, 2;"Hissar, Punjab, India", ?-?-1914, 3, H. Whistler.

181. JUNGLE BABBLER *Turdoides striatus orientalis* (Jerdon), 1847
Turdoides somervillei orientalis: "Eswanteraopet, Hyderabad, India", 18-6-1913, 4.

182. JUNGLE BABBLER *Turdoides striatus striatus* (Dumont), 1823
Turdoides somervillei terricolor: "Mathura, Uttar Pradesh, India", ?-6-1892, 3.

183. WHITEHEADED BABBLER *Turdoides affinis affinis* (Jerdon), 1847

Turdoides striatus affinis: "Tigherry, Hyderabad, India", 6-4-1912, 4; 16-7-1912, 3.

184. NECKLACED LAUGHING THRUSH *Garrulax moniligerus moniligerus* (Hodgson), 1836
Garrulax moniliger moniliger: "Khasi Hills, Assam, India", 7-6-1910, 3, E.C. Stuart Baker; 2-6-1910, 3, E.C. Stuart Baker.

185. BLACKGORGETED LAUGHING THRUSH *Garrulax pectoralis pectoralis* (Gould), 1836
Garrulax pectoralis pectoralis: , 25-4-1912, 3, E.C. Stuart Baker; 16-5-1912, 4, E.C. Stuart Baker.

186. WHITECRESTED LAUGHING THRUSH *Garrulax leucolophus patkaicus* Reichenow, 1913
Garrulax lucolophus hardwicki: no data, 25-5-1907, 3, E.C. Stuart Baker; 21-5-1906, 3, E.C. Stuart Baker.

187. WYNAAD LAUGHING THRUSH *Garrulax delesserti delesserti* (Jerdon), 1839
Garrulax delesserti delesserti: "Travancore, India", 4-4-1909, 3, J. Stewart.

188. YELLOWTHROATED LAUGHING THRUSH *Garrulax delesserti gularis* (McClelland), 1839
Garrulax delesserti gularis: , "Chirapoonjee, Khasi Hills, Assam, India", 31-5-1901, 3, E.C. Stuart Baker.

189. RUFOUSNECKED LAUGHING THRUSH *Garrulax ruficollis* (Jardine & Selby), 1838
Garrulax ruficolis: "Magherita, Assam, India", 18-4-1903, 4, E.C. Stuart Baker; "Khasi Hills, Assam, India", 1-5-1910, 2, E.C. Stuart Baker.

190. STREAKED LAUGHING THRUSH *Garrulax lineatus lineatus* (Vigors), 1831
Garrulax lineatus grisecentior: "Ranikhet, Uttar Pradesh, India", 1-5-1904, 2, W.A. Payn.

191. REDHEADED LAUGHING THRUSH *Garrulax erythrocephalus chrysopterus* (Gould), 1835
Garrulax erythrocephalus chrysopterus: "Khasi Hills, Assam, India", 18-5-10, 1, E.C. Stuart Baker; "Chirapoonjee, Khasi Hills, Assam, India", 16-5-1907, 3, E.C. Stuart Baker.

192. CRIMSONWINGED LAUGHING THRUSH *Garrulax phoeniceus bakeri* (Hartert), 1908
Liocichla phoenicea bakeri: "Khasi Hills, Assam, India", 29-5-1909, 2, E.C. Stuart Baker; 17-6-1910, 2, E.C. Stuart Baker; 5-6-1907, 2, E.C. Stuart Baker.

193. SILVEREARED MESIA *Leiothrix argentauris argentauris* (Hodgson), 1837
Leiothrix argentauris argentauris: "Khasi Hills, Assam, India", 24-6-1912, 3, E.C. Stuart Baker; "Shillong, Khasi Hills, Assam, India", 16-5-1912, 3, E.C. Stuart Baker.

194. REDBILLED LEIOTHRIX *Leiothrix lutea calipyga* (Hodgson), 1837
Leiothrix lutea callipyga: "Shillong, Khasi Hills, Assam, India", 18-6-1912, 3, E.C. Stuart Baker; "Shillong, Khasi Hills, Assam, India", 19-6-1912, 3, E.C. Stuart Baker.

195. SPECTACLED BARWING *Actinodura egertoni khasiana* Godwin-Austen, 1876
Actinidura egertoni khasiana: "Shillong, Khasi Hills, Assam, India", 18-5-1907, 4, E.C. Stuart Baker; "Shillong, Khasi Hills, Assam, India", 12-5-1907, 3, E.C. Stuart Baker.

196. RUFOUSHEADED TIT-BABBLER *Alcippe brunnea mandelli* (Godwin-Austen), 1876
Alcippe dubia mantelli: "Khasi Hills, Assam, India", 3-6-1912, 4, E.C. Stuart Baker.

197. QUAKER BABBLER *Alcippe poioicephala poioicephala* (Jerdon), 1844
Alcippe poiocephala poiocephala: "Madras, India", 11-6-1909, 1, E.C. Stuart Baker.

198. QUAKER BABBLER *Alcippe poioicephala* (Jerdon), 1844
Alcippe poiocephala phayrei: "Khasi Hills, Assam, India", 23-5-1912, 3, E.C. Stuart Baker; 18-6-1912, 4, E.C. Stuart Baker.

199. NEPAL BABBLER *Alcippe nipalensis nipalensis* (Hodgson), 1837
Alcippe nipalensis nipalensis: "Shillong, Khasi Hills, Assam, India", 27-6-1912, 3, E.C. Stuart Baker; 14-8-1912, 3, E.C. Stuart Baker.

200. BLACKCAPPED SIBIA *Heterophasia capistrata capistrata* (Vigors), 1830-31
Heterophasia capistrata capistrata: ?, 6-7-1923, 2, E.C. Stuart Baker.

201. GREY SIBIA *Heterophasia gracilis* (McClelland), 1839
Heterophasia capistrata gracilis: "Uman Valley, Khasi Hills", 13-6-1912, 2, E.C. Stuart Baker.

202. BROWN FLYCATCHER *Muscicapa latirostris* Raffles, 1822
Muscicapa latirostris: "Cardamom Hills, Travancore, India", 18-3-1914, 2.

203. WHITEBROWED BLUE FLYCATCHER *Muscicapa superciliaris superciliaris* Jerdon, 1840
Ficidula superciliaris superciliaris: "Rhaniket, Uttar Pradesh, India", 26-4-1904, 2, W.A. Payn.

204. WHITEBELLIED BLUE FLYCATCHER *Muscicapa pallipes* Jerdon, 1840
Nilatava pallipes: "Cardamom Hills, Travancore, India", 29-8-1914, 2.

205. TICKELL'S BLUE FLYCATCHER *Muscicapa tickelliae tickelliae* (Blyth), 1843
Nilatava tickelliae tickelliae: "Eswanteraopet, Hyderabad, India", 14-7-1914, 3; 20-6-1914, 4; 26-6-1914, 4; 17-7-1914, 3.

206. VERDITER FLYCATCHER *Muscicapa thalassina thalassina* Swainson, 1838
Muscicapa thalassina thalassina: "Simla, Himachal Pradesh, India", 13-4-1910, 3, E.C. Stuart Baker; "Khasi Hills, Assam, India", 4-7-1913, 4, E.C. Stuart Baker; 6-6-1910, 4, E.C. Stuart Baker.

207. WHITEBROWED FANTAIL FLYCATCHER *Rhipidura aureola aureola* Lesson, 1830
Rhipidura aureola aureola: "Eswanteraopet, Hyderabad, India", 21-6-1914, 2; 12-6-1914, 3; 13-6-1914, 3; 9-7-1912, 2.

208. WHITETHROATED FANTAIL FLYCATCHER *Rhipidura albicollis albogularis* (Lesson), 1832
Rhiphidura pectoralis: "Mahabalehwar, Bombay, India", 13-6-1900, 1, W.A. Payn.

209. PARADISE FLYCATCHER *Terpsiphone paradisi leucogaster* (Swainson), 1838
Terpsiphone paradisi leucogaster: "Saltapur, Kulu, Punjab, India", 22-6-1922, 3, H. Whistler; "Dharmasala, Kangra, Uttar Pradesh, India", 24-5-1922, 3, H. Whistler.

210. PARADISE FLYCATCHER *Terpsiphone paradisi paradisi* (Linné), 1758
Terpsiphone paradisi paradisi: "Eswanteraopet, Hyderabad, India", -7-1916, 4; 3-7-1914, 2; 15-8-1914, 2; 30-6-1913, 4.

211. BLACKNAPED FLYCATCHER *Hypothymis azurea styani* (Hartlaub), 1898

Hypothymis azurea styani: "Assam, India", 19-4-1910, 3, E.C. Stuart Baker; "Behar, India", 25-4-1903, 3, E.C. Stuart Baker; "N. Cachar Hills, India", 28-5-1988, 2, E.C. Stuart Baker.

212. BROWN BUSH WARBLER *Bradypterus luteoventris luteoventris* (Hodgson), 1845
Bradypterus luteoventris luteoventris: "Khasi Hills, Assam, India", 9-6-1912, 4, E.C. Stuart Baker; "Khasi Hills, Assam, India", 14-6-1912, 4, E.C. Stuart Baker.

213. STREAKED FANTAIL WARBLER *Cisticola juncidis cursitans* (Franklin), 1831
Cisticola juncidis cursitans: "Tigherry, Hyderabad, India", 7-9-1912, 4; "Mylkaran, Hyderabad, India", 18-8-1914, 4; "Tigherry, Hyderabad, India", 18-9-1912, 4.

214. FRANKLIN'S WREN-WARBLER *Prinia hodgsonii hodgsonii* Blyth, 1844
Prinia hodgsoni hodgsoni: "Eswanteraopet, Hyderabad, India", 8-8-1913, 4; 15-8-1914, 4; 11-7-1914, 3; 16-8-1914, 3; 30-7-1913, 4.

215. RUFOUSFRONTED WREN-WARBLER *Prinia buchanani* Blyth, 1844
Prinia buchanani: "Tigherry, Hyderabad, India", 21-9-1912, 4; ?-9-1913, 5; "Eswanteraopet, Hyderabad, India", 24-8-1914, 4.

216. PLAIN WREN-WARBLER *Prinia subflava inornata* Sykes, 1832
Prinia inornata inornata: "Tigherry, Hyderabad, India", 14-8-1912, 5; 19-9-1912, 4; 19-10-1912, 5; 16-9-1912, 5; 9-9-1912, 5.

217. ASHY WREN-WARBLER *Prinia socialis socialis* Sykes, 1832
Prinia socialis socialis: "Tigherry, Hyderabad, India", 7-8-1912, 4.

218. JUNGLE WREN-WARBLER *Prinia sylvatica sylvatica* Jerdon, 1840
Prinia sylvatica sylvatica: "Tigherry, Hyderabad, India", 11-7-1913, 3; 25-7-1913, 3; 15-7-1912, 3; 17-7-1912, 4.

219. TAILOR BIRD *Orthotomus sutorius guzuratus* (Latham), 1790
Orthotomus sutorius guzurata: "Tigherry, Hyderabad, India", 18-8-1912, 4; 4-8-1912, 4; 25-8-1912, 4.

220. LESSER WHITETHROAT *Sylvia curruca althaea* Hume, 1878
Prinia althaea: Kashmir, 16-5-1902, 4.

221. CHIFFCHAFF *Phylloscopus collybita sindianus* Brooks, 1879
Phylloscopus collybita sindianus: "Kargil, Kashmir, India", 15-7-1928, 4, H. Whistler.

222. GREYHEADED FLYCATCHER-WARBLER *Seicercus xanthoschistos albosuperciliaris* (Jerdon), 1863
Seicercus xanthrochistos albosuperciliaris: "Ranikhet, Uttar Pradesh, India", 7-4-1904, 4, W.A. Payn.

223. GREYHEADED FLYCATCHER-WARBLER *Seicercus xanthoschistos xanthaschistos* (Gray), 1846
Seicercus xanthrochistos xanthroschistos: "Dharmasala, Kangra, Uttar Pradesh, India", 10-5-1932, 4, H. Whistler.

224. CHESTNUT-HEADED FLYCATCHER-WARBLER *Seicercus castaniceps castaniceps* (Hodgson), 1845
Seicercus castaniceps castaniceps: "Khasi Hills, Assam, India", 15-6-1907, 4, E.C. Stuart Baker.

225. LESSER SHORTWING *Brachypteryx leucophrys nipalensis* Hodgson, 1854
Brachypteryx leucophrys nipalensis: "Khasi Hills, Assam, India", 30-6-1912, 4, E.C. Stuart Baker.

226. BLUETHROAT *Erithacus svecicus abbotti* (Richmond), 1896

Luscinia svecica abbotti: "Gompa, nr. Leh, N. India, 12,000ft", 11-7-1923, 4.

227. MAGPIE-ROBIN *Copsychus saularis saularis* (Linné), 1758
Copsychus saularis saularis: "Tigherry, Hyderabad, India", 16-5-1914, 4; 15-6-1912, 4; 10-7-1912, 4; 20-5-1911, 4.

228. MAGPIE-ROBIN *Copsychus saularis andamanensis* Hume, 1874
Copsychus saularis andamanensis: Andaman Islands, 7-3-1907, 1, B.B. Osmaston; 1-3-1907, 1, B.B. Osmaston; 13-3-1907, 1, B.B. Osmaston.

229. SHAMA *Copsychus malabaricus* (Scopoli), 1786
Kittacincla malabaricus macrourus: "Chakrata, Gharwal, Uttar Pradesh, India", ??, 4, B.B. Osmaston.

230. REDSTART *Phoenicurus phoenicurus phoenicurus* (Linné), 1758
Phoenicurus ochrurus phoenicurus: "Kardong, Leh, N. India, 13,000ft", 6-6-1923, 4.

231. SPOTTED FORKTAIL *Enicurus maculatus maculatus* Vigors, 1831
Enicurus maculatus maculatus: "Ranikhet, Uttar Pradesh, India", 3-5-1903, 3, W.A. Payn

232. STONE CHAT *Saxicola torquata indica* (Blyth), 1847
Saxicola torquata indica: "Manasbal Mts., 5,600ft. (Assam), India", 7-5-1928, 1, B.B. Osmaston.

233. PIED BUSH CHAT *Saxicola caprata* (Linné), 1766
Saxicola caprata caprata: "Manahorabad, Hyderabad India", 28-3-1913, 3; "Eswanteraopet, Hyderabad, India", 29-3-1912, 3; "Tigherry, Hyderabad, India", 23-3-1912, 3; 23-6-1912, 3.

234. PIED BUSH CHAT *Saxicola caprata nilgiriensis* Whistler, 1940
Saxicola caprata nilgiriensis: "Ootacamund, Madras, India", 29-7-1912, 3, per McCullock; "Cardamom Hills, Travancore, Southern India", 28-3-1914, 4, , 4-4-1914, 3.

235. DARK-GREY BUSH CHAT *Saxicola ferrea* Gray, 1846
Saxicola ferrea ferrea: "Raniket, Uttar Pradesh, India", 18-4-1904, 4, W.A. Payn.

236. PLESCHANKA'S WHEATEAR *Oenanthe pleschanka pleschanka* (Lepechin), 1770
Oenanthe pleschanka pleschanka: "Kargil, Kashmir, 9,300ft.", ?-6-1928, 3, H. Whistler.

237. INDIAN ROBIN *Saxicoloides fulicata cambaiensis* (Latham), 1790
Saxicoloides fulicata cambaiensis: "Mathura, Uttar Pradesh, India", ?-6-1912, 4; 27-5-1912, 4, E.C. Stuart Baker.

238. INDIAN ROBIN *Saxicoloides fulicata intermedia* Whistler & Kinnear, 1932
Saxicoloides fulicata intermedia: "Tigherry, Hyderabad, India", 23-3-1912, 3; 23-3-1912, 3; "Eswanteraopet, Hyderabad, India", 6-4-1912, 3; 6-4-1913, 3.

239. BLUEHEADED ROCK THRUSH *Monticola cinclorhynchus* (Vigors), 1832
Monticola cinclorhyncus: "T. ? 5,000ft", 15-5-1897, 2, B.B. Osmaston.

240. CHESTNUTBELLIED ROCK THRUSH *Monticola rufiventris* (Jardine & Selby), 1833
Monticola rufiventris: "Lilancote, Khasia Hills, Assam, India", 21-5-1918, 3, E.C. Stuart Baker; "J. ? 8, 000ft", 14-5-1917, 4, B.B. Osmaston.

241. MALABAR WHISTLING THRUSH *Myiophonus horsfieldii horsfieldii* (Vigors), 1831

Myiophoneus horsfieldi horsfieldi: "Khandalla, nr. Bombay, India", 31-7-1901, 1, H. Beetham; 31-7-1901, 1, H. Beetham; "Bombay Province, India", ??, 1, H. Beetham.

242. BLUE WHISTLING THRUSH *Myiophonus caeruleus temminckii* (Vigors), 1832
Myiophoneus caeruleus temminckii: "Umiam River, Shillong, Assam, India", 14-7-1911, 3, F.C.R.J.

243. ORANGEHEADED GROUND THRUSH *Zoothera citrina cyanotus* (Jardine & Selby), 1828
Zoothera citrina cyanotis: "Eswanteraopet, Hyderabad, India", 10-6-1914, 2.

244. ORANGEHEADED GROUND THRUSH *Zoothera citrina citrina* (Latham), 1790
Zoothera citrina citrina: "Khasi Hills, Assam, India", 9-6-1912, 4, E.C. Stuart Baker; 4-6-1908, 3, E.C. Stuart Baker.

245. LARGE BROWN THRUSH *Zoothera monticola monticola* Vigors, 1832
Monticola monticola monticola: "Dumpep, Assam, India", 19-5-1926, 2, E.C. Stuart Baker.

246. LESSER BROWN THRUSH *Zoothera marginata* Blyth, 1847
Monticola monticola marginata: "Khasi Hills, Assam, India", 27-4-1921, 2, E.C. Stuart Baker.

247. BLACKBREASTED THRUSH *Turdus dissimilis* Blyth, 1847
Turdus dissimilis: "Khasi Hills, Assam, India", 4-5-1921, 2, E.C. Stuart Baker.

248. TICKELL'S THRUSH *Turdus unicolor* Tickell, 1833
Turdus unicolor: Kashmir, ?-5-1909, 1, B.B. Osmaston.

249. BLACKBIRD *Turdus merula nigropileus* (Lafresnaye), 1840
Turdus merula nigropileus: "Mahabaleshwar, Bombay Province, India", 21-5-1900, 2, W.A. Payn.

250. MISTLE THRUSH *Turdus viscivorus bonapartei* Cabanis, 1860
Turdus viscivorus bonapartei: "Chakrata, Gharwal, Uttar Pradesh, India", 1-5-1917, 1, B.B. Osmaston; 25-4-1898, 1, B.B. Osmaston.

251. WREN *Troglodytes troglodytes neglectus* Brooks, 1872
Troglodytes troglodytes neglectus: "Gulmarg, Kashmir, 10, 000ft", 8-8-1922, 4, B.B. Osmaston.

252. BROWN DIPPER *Cinclus pallasii tenuirostris* Bonaparte, 1850
Cinclus pallasii tenuirostris: "Nini Tal, N. Uttar Pradesh, India", 22-2-1901, 2, per E.C. Stuart Baker.

253. ROBIN ACCENTOR *Prunella rubeculoides* (Moore), 1854
Prunella rubeculoides muraria: "Suru, Kashmir", 7-7-1928, 3, H. Whistler.

254. RUFOUSBREASTED ACCENTOR *Prunella strophiata jerdoni* (Brooks), 1872
Prunella strophiata jerdoni: "Kyelang, Lahul, India", 5-7-1922, 1, H. Whistler.

255. GREY TIT *Parus major nipalensis* Hodgson, 1837
Parus major nipalensis: "Khasi Hills, Assam, India", 31-5-1903, 3, E.C. Stuart Baker; "Nina Tal, Kumaun, Uttar Pradesh, India", 1-7-1903, 3, E.C. Stuart Baker.

256. GREY TIT *Parus major stupae* Koelz, 1939
Parus major stupae: "Eswanteraopet, Hyderabad, India", 8-7-1914, 6; 5-7-1913, 5.

257. GREENBACKED TIT *Parus monticolus monticolus* Vigors, 1831
Parus monticolus monticolus: "Mahazoo, Simla, Himachal Pradesh, India", 13-5-1919, 4, H. Whistler.

258. CRESTED BLACK TIT *Parus melanolophus* Vigors, 1831

Parus melanolophus: "Sangouli, Simla, Himachal Pradesh, India", 17-4-1925, 3, H. Whistler.

259. CHESTNUTBELLIED NUTHATCH *Sitta castanea* Lesson, 1830
Sitta castanea: "Eswanteraopet, Hyderabad, India", 22-7-1914, 2.

260. VELVETFRONTED NUTHATCH *Sitta frontalis frontalis* Swainson, 1820
Sitta frontalis frontalis: "Assam, India", 4-5-1913, 2, E.C. Stuart Baker.

261. PADDYFIELD PIPIT *Anthus novaeseelandiae rufulus* Vieillot, 1818
Anthus novaeseelandiae rufulus: "Tigherry, Hyderabad, India", 14-3-1912, 3; 11-6-1912, 3; 2-6-1912, 3; "Badusaipet, Hyderabad, India", 7-4-1914, 3; "Kumili, Travancore, India", 3-4-1914, 2; 4-4-1914, 3; "Cardamom Hills, Travancore, Southern India", 24-3-1914, 3.

262. UPLAND PIPIT *Anthus sylvanus* (Hodgson), 1845
Anthus sylvanus: "Raniket, Uttar Pradesh, India", 8-5-1903, 2, W.A. Payn.

263. YELLOWHEADED WAGTAIL *Motacilla citreola calcarata* Hodgson, 1836
Monticola citreola calcarata: "Hokra Gail, Kashmir, India", 26-5-1924, 3, B.B. Osmaston

264. WHITE WAGTAIL *Motacilla alba alboides* Hodgson, 1836
Motacilla alba alboides: "Jisper, R. Chandra, Lahul", 5-7-1922, 3, H. Whistler.

265. LARGE PIED WAGTAIL *Motacilla maderaspatensis* Gmelin, 1789
Motacilla madaraspatensis: "Tigherry, Hyderabad, India", 19-4-1914, 4; 1-5-1912, 3; 20-4-1914, 2; 27-4-1912, 4.

266. THICKBILLED FLOWERPECKER *Dicaeum agile agile* (Tickell), 1833
Dicaeum agile agile: "Eswanteraopet, Hyderabad, India", 10-4-1914, 1.

267. TICKELL'S FLOWERPECKER *Dicaeum erythrorhynchos erythrorhynchos* (Latham), 1790
Dicaeum erythrorhynchos erythrorhynchos: "Eswanteraopet, Hyderabad, India", 17-6-1914, 1.

268. PURPLERUMPED SUNBIRD *Nectarinia zeylonica zeylonica* (Linné), 1766
Nectarinia zeylonica zeylonica: "Tigherry, Hyderabad, India", 1-4-1913, 3, 17-3-1913, 2; 5-3-1911, 2; 18-3-1913, 2; 2-9-1912, 2

269. PURPLE SUNBIRD *Nectarinia asiatica asiatica* (Latham), 1790
Nectarinia asiatica asiatica: "Tigherry, Hyderabad, India", 25-4-1911, 2; 12-3-1911, 2; 30-3-1911, 2.

270. LITTLE SPIDERHUNTER *Arachnothera longirostris longirostris* (Latham), 1970
Arachnothera longirostris longirostris: "Shillong, Khasi Hills, Assam, India", 29-5-1912, 2, E.C. Stuart Baker.

271. HOUSE SPARROW *Passer domesticus indicus* Jardine & Selby, 1835
Passer domesticus indicus: "Tigherry, Hyderabad, India", 12-3-1911, 4; 20-12-1910, 4.

272. CINNAMON TREE SPARROW *Passer rutilans intensior* Rothschild, 1922
Passer rutilans intensior: "Shillong, Khasi, Hills, Assam, India", 18-5-1912, 5, E.C. Stuart Baker.

273. YELLOWTHROATED SPARROW *Petronia xanthocollis xanthocollis* (Burton), 1838
Petronia xanthocollis xanthocollis: "Manohorabad, Hyderabad, India", 29-3-1913, 4; ?, 3; ?, 3; ?, 2/3.

274. BAYA *Ploceus philippinus philippinus* (Linné), 1766
Ploceus philippinus philippinus: "Koil, Uttar Pradesh, India", ?-7-1892, 3.

275. STREAKED WEAVER BIRD *Ploceus manyar flavipes* Lesson, 1831
Ploceus manyar flavipes: "Rajpur, Uttar Pradesh, India", 10-9-1892, 3.
276. RED MUNIA *Estrilda amandava amandava* (Linné), 1758
Amandava amandava amandava: "Masaipet, (Hyderabad Prov.) India", 13-1-1914, 4; "Navipet, (Hyderabad Prov.), India", 31-12-1913, 2; "Bezwada, Madras, India", 25-2-1914, 2.
277. WHITETHROATED MUNIA *Lonchura malabarica malabarica* (Linné), 1758
Lonchura malabarica malabarica: "Tigherry, Hyderabad, India", 29-9-1912, 6.
278. SPOTTED MUNIA *Lonchura punctulata punctulata* (Linné), 1758
Lonchura punctulata lineoventera: "Tigherry, Hyderabad, India", 31-8-1912, 7.
279. HIMALAYAN GREENFINCH *Carduelis spinoides spinoides* Vigors, 1831
Carduelis spinoides spinoides: "Simla, Himachal Pradesh, India", 29-6-1919, 1, H. Whistler.
280. GOLDFRONTED FINCH *Serinus pusillus* (Pallas), 1811
Serinus pubillus: "Kibar Village, Spiti, Punjab, India", 21-7-1922, 1, H. Whistler.
281. COMMON ROSEFINCH *Carpodacus erythrinus roseatus* (Blyth), 1842
Carpodacus erythrinus roseatus: Tsalis Kot, 11-8-1928, 1, H. Whistler.
282. PINKBROWED ROSEFINCH *Carpodacus rhodochrous* (Vigors), 1831
Carpodacus rhodochrous: "Nila Valley, Gharwal, India", 26-7-1910, 4, S.L. Whymper.
283. BEAUTIFUL ROSEFINCH *Carpodacus pulcherrimus pulcherrimus* (Moore), 1855
Carpodacus pulcherrimus pulcherrimus: "Nila Valley, Gharwal, India", 30-7-1910, 4, S.L. Whymper.

Gazetteer

Andaman Islands: The Union Territory of Andaman and Nicobar Islands, located in the Bay of Bengal.

Assam: A state in northeast India.

Badusaipet: Hyderabad, India.

Basar: 18°53'N, 77°57'E. Adilabad District, Andhra Pradesh.

Bezwada: 16°31'N, 80°39'E. Old name for Vijaywada, Krishna District, Andhra Pradesh. Earlier in erstwhile Madras Presidency.

Bhopal: 23°16'N, 77°36'E. City and District in Madhya Pradesh (*see* Central Provinces).

Bombay Province: India.

Cardamom Hills: Elamalai Hills, on the border Tamil Nadu and Kerala, forming the central part of the southern Sahyadri.

Central Provinces: Generally translates as contemporary Madhya Pradesh, which however, differs in its political boundaries from those of the Central Provinces.

Chakrata: Dehra Dun, Uttar Pradesh now in Uttaranchal.

Chandra River: Tributary of River Chenab in Himachal Pradesh.

Chirapoonjee: Cherapunjee town in the East Khasi Hills District of Meghalaya State.

Deccan: Plateau lands of Peninsular India generally south of the Satpura Range. Here primarily parts of erstwhile Hyderabad State now divided between Andhra Pradesh and Maharashtra.

Dehradun: 30°19'N, 78°04'E. City and district in the state of Uttaranchal. Earlier in Uttar Pradesh.

Deolali: Deolali town in Ahmednagar District, Maharashtra state.

Dharmasala: 32°16'N, 76°23'E. Dharamsala, Kangra District, Himachal Pradesh.

Dumpep: Assam, India.

Ellore: Madras. Now Eluru town, 16°43'N, 81°09E, in West Godavari District, Andhra Pradesh.

Eswanteraopet: Eswantraopet, Rangareddi District, Andhra Pradesh.

Etah: 27°35'N, 78°40E. Town and District in the state of Uttar Pradesh.

Gharwal: the general region encompassing the districts of Pauri Garhwal, Tehri Garhwal, Uttarkashi, Chamoli and Dehra Dun in the states of Uttar Pradesh and Uttaranchal.

Gompa near Leh: 34°10'N, 77°34'E. Gompa village, 5km north of Leh town, Ladakh District, Jammu & Kashmir. Altitude 3,650m.

Gulmarg: 34°15'N, 74°25'E. Gulmarg hill resort in Baramula District of Kashmir.

Hissar: 29°10'N, 75°46'E. City and district in the state of Haryana. Also spelt as Hisar.

Hokra Gail: Kashmir

Interaoti River: 19°03'N, 81°00'E. Indravati River in Bastar District of Chattisgarh state.

Jalna: 19°51'N, 75°56'E. Jalna city and district in the state of Maharashtra.

Jeyt (or Teyt): United Provinces

Jisper: A small village north of Keylong at the base of the Baralacha La.

Jitmhtlae: 17°22'N, 78°28'E. Jidimetla, suburb of Hyderabad city.

Kamaredi: 18°18'N, 78°22'E. Kamareddi town in Nizamabad District, Andhra Pradesh.

Kangra: 32°05'N, 76°18'E. Kangra town and District in the state of Himachal Pradesh.

Kardong: Leh, 13,000'. 34°24'N, 77°34'E. Khardung village (between the towns of Leh in Indus Valley and Diskit in Nubra Valley, Ladakh District, Jammu & Kashmir. Altitude 3,200m.

Kargil: 34°30'N, 76°13'E. Kargil town and District, in the state of Jammu & Kashmir.

Kashmir: Jammu & Kashmir state, north India.

Keylong: 32°30'N, 77°3'E. Headquarters of Lahul & Spiti District of Himachal Pradesh.

Khandalla: Khandalla town in the Western Ghats, in Pune District, Maharashtra.

Khasi Hills: 25°30'N, 91°30'E. Central portion of Meghalaya State, comprising of the Districts of East Khasi Hills and West Khasi Hills.

Kibar Village: Spiti, Punjab. Village and roadhead north of Kaza in Spiti, Himachal Pradesh.

Koil: 27°54'N, 78°06'E. Aligarh, Uttar Pradesh, India.

Kuay River: ?, in Darbhanga District in the state of Bihar, India.

Kulu: 4,000'. Kullu (Kulu), town and District in the state of Himachal Pradesh, India.

Kumaon: Kumaon (Kumaun) region in the Himalaya of Uttaranchal State, India.

Kumili: Kumily town, Idukki District, Kerala, India.

Kyeland: Lahul, India. Possibly Keylong (*q.v.*).

Ladakh: Ladakh (or Leh) district in the state of Jammu and Kashmir, India.

Leh: Leh town, headquarters of Ladakh (*q.v.*) district, Jammu and Kashmir, India.

Lilancote: Khasia Hills, Assam, India.

Lucknow: 26°55'N, 80°59'E. Lucknow city and district in the state of Uttar Pradesh, India.

Madaram: Madaram town, Adilabad district in the state of Andhra Pradesh.

Madras: 13°04'N, 80°17'E. Madras city (now renamed Chennai) and district in the state of Tamil Nadu, India.

Magherita: *see* Margherita.

Mahabaleshwar: 17°58'N, 73°43'E. Hill resort in the Western Ghats, Satara district of Maharashtra State, India.

Mahazoo: Shimla, Himachal Pradesh, India.

Malappuram: S Malabar (Madras)

Manasbal mountains: 5,600'. Assam, India.

Manohorabad: Manoharabad, Rangareddi District, Andhra Pradesh, India.

Margherita: Town in Dibrugarh District, Assam, India.

Marh: India.

Masaipet: 17°54'N, 78°27'E. Masaipet town, Medak District, Andhra Pradesh, India.

Mirzapali: 18°00'N, 78°25'E. Mirzapalli town, Medak District, Andhra Pradesh, India.

Mussoorie: 30°27'N, 78°06'E. Hill resort in Dehra Dun district of the state of Uttaranchal, India.

Muthpalli: Central Provinces, India.

Muttra: 27°28'N, 77°41'E. Mathura city and district in the state of Uttar Pradesh, India.

Mylkaran: Hyderabad, in the state of Andhra Pradesh, India.

N. Cachar: North Cachar Hills district in the south-central part of the state of Assam, India.

Naigaon: Central Provinces, India.

Naripet: *see* Navipet.

Navipet: 18°45'N, 78°03'E. Navipet town, Nizamabad District, Andhra Pradesh, India.

Naya Bhil:

Nila Valley: Gharwal, India.

Nina Tal: *see* Nini Tal.

Nini Tal: 29°23'N, 79°30'E. Nainital town and district in the state of Uttaranchal, India.

Ootacamund: 11°24'N, 76°44'E. Ooty or Ootacamund hill resort, now renamed Udagamandalam, in Nilgiris district of the state of Tamil Nadu, India.

Parkhal: 18°12'N, 79°43'E. Warangal district, Andhra Pradesh State, India.

Patiala: 30°20'N, 76°25'E. Patiala city and district in the state of Punjab, India.

Purnah: Purna town in Parbhani district of the state of Maharashtra, India.

Rajpur: There are several towns by this name in the state of Uttar Pradesh, India.

Rhaniket: 29°40'N, 79°33'E. Ranikhet town in Almora District in the state of Uttaranchal, India.

S'cbad: 17°20'N, 78°30'E. Secunderabad, twin city of Hyderabad city, Hyderabad district, Andhra Pradesh, India.

Saltapur: Kulu, Punjab, India.

Sangouli: Simla. Sanghole town in Kangra District of Himachal Pradesh?

Saugor: 23°50'N, 78°50'E. Sagar city and district in the state of Madhya Pradesh, India.

Sehore: 23°12'N, 77°00'E. Sehore town and district in the state of Madhya Pradesh, India.

Shillong: 25°34'N, 91°56'E. Shillong city in East Khasi Hills District in the state of Meghalaya, India.

Silchar: 24°50'N, 92°51'E. Silchar city, headquarters of Cachar District in Assam state, India.

Simla: 31°06'N, 77°13'E. Shimla city and district in the state of Himachal Pradesh, India.

Spiti: Region of Lahul and Spiti District in the state of Himachal Pradesh, India.

Suru: 34°14'N, 76°2'E. Suru River Valley *c.* 90km east of Srinagar, Kashmir, India.

Tigherry: *see* Trimulgherry.

Travancore: Present day state of Kerala in southwest India.

Trimulgherry: 17°30'N, 78°31'E. Trimulgherry town, Rangareddi District, Andhra Pradesh, India.

Tsalis Kot: *Chaalees Kot*?

Uman Valley: Khasi Hills (*q.v.*), India.

Umiam River: Shillong, Assam, India.

Umri: Umri town in the district of Guna in Madhya Pradesh State, India.
United Provinces: Generally translates to the political boundaries of contemporary Uttar Pradesh (*q.v.*), India.
Uttar Pradesh: State in northern India.
Warrangal: 17°58'N, 79°36'E. Warangal town and district in the state of Andhra Pradesh, India.

Appendix

OBITUARIES

1. Col. Richard Sparrow, C.M.G., D.S.O., F.Z.S., M.B.O.U., 1871-1953.

"There passed suddenly away on December 6th, 1953, at the ripe age of 82, quite a notability in the person of Colonel Richard Sparrow—splendid soldier, first-class shot, fine fisherman, good ornithologist. In brief, a real good all-rounder. Incidentally, in his younger days he was very good looking.

"After being educated at Wellington and Sandhurst, he gained a commission in the 7th Dragoon Guards (the Black Horse). With them he fought in the South Africa War and again in the world-wide conflagration of 1914-1918. In the latter, after his C.O. had been killed, he commanded the regiment, wherein he was greatly esteemed by officers and other ranks alike. I remember once meeting one of his troopers, who, unprompted, described him tersely as a "b__ fine chap." Praise indeed; and a verdict which I wholeheartedly endorse.

"I had the pleasure of doing quite a number of bird-trips with him—the first as long ago as the year 1911. Besides sundry outings in Sussex and Kent, we visited Salisbury Plain, the Scillys, the Lakes, the sea-cliffs of the Devonian Peninsular and one or two other localities somewhat off the beaten track. Sparrow was a very moderate collector, and was keen on foreign eggs as well as British. In addition to his eggs, he had a nice showing of horns and skins—trophies of big game shikar in Africa and India. For twelve years he was President of the Jourdain Society, in which capacity he was, as you would expect, a complete success.

"We shall all miss him. *Requiescat in pace.*"

—J.W.-B. 1954. Obituary. *Bulletin of the Jourdain Society* 31: 252-253.

2. Colonel Richard Sparrow, C.M.G., D.S.O., F.R.G.S., F.Z.S., M.B.O.U.

"It is with sorrow that I record the death of an old friend, who died at Colchester, aged 82, on December 6th last; a distinguished soldier, traveller and sportsman, who served in the South Africa war and commanded the 7th Dragoon Guards in the first world war. I first contacted him in 1917 in a correspondence about Cirl Bunting (*Emberiza cirlus*) in France. Our first personal meeting was in May, 1918, in a forest near Amiens packed with troops assembling in leafy concealment for the start of the great drive that finally ended the war. Well do I remember the

Golden Oriole (*O. oriolus*) nest perched near the summit of an extremely thin-stemmed sapling oak, growing in full sight of the entrance to an officer's latrine. On my suggestion the sapling was cut down and propped against a nearby climbable tree. All was easily arranged, but as the nest held no eggs the oak was replaced in its old position, supported by various wire-stays gleaned from a nearby military store. On June 9th I revisited the site, but the Colonel had vanished with his regiment, and I had to collect a passing soldier as an assistant in unshipping the tree, with its now extremely conspicuous nest in the dead leaf canopy. There were three part-incubated eggs and I narrowly escaped arrest as a spy. This latter fact was gleaned, about 1920, when I made the acquaintance of an ex-cavalry subaltern who recounted to me "the remarkable story" of a staff officer with the conspicuous armband of G.H.Q. who entered a troop concealment area in quest of a bird's nest, for its eggs! The next happy meeting with the Colonel was at the home of his two sisters in Essex where I saw his quite amazing collection of big game trophies displayed in an especially constructed glass-roofed circular room; also his egg collection gleaned from many foreign countries. The eggs were, perhaps, as much to the Colonel "trophies of the chase" as specimens of scientific value. Perhaps his most notable take was a c/4 of the Nubian Lanner (-*Falco biarmicus tanypterus*) from the 2nd Pyramid of Ghizeh, Egypt, on March 3rd, 1919. I gather the Colonel only caught a fleeting glance of the parent birds, and that some oologists have queried the identification, since they might have been the Barbary Falcon (*F. peregrinus pelegrinoides*), whose eggs are extremely similar in appearance to those of the Lanner. We were twice associated in British nesting trips, and on one of them I greatly entertained Sparrow by sliding down a rope trained past the nest of a Siskin (*Carduelis spinus*) perched near the end of a pine branch, high above ground. His shooting, fishing and bird collecting took him all over the globe; his eggs being gleaned from regions as far apart as Norway and Deception Island in the Antarctic, of these the "foreign" ones were given to the Tring branch of the British Museum some years ago. In 1945 he persuaded me to restart *The Oologists' Record* after a six year lapse, and gave me every help and encouragement in a far from easy honorary undertaking. He made an admirable President for the old British Oological Association, renamed Jourdain Society in honour of that great ornithologist. Strict rules were drawn up for the discouragement of over-collecting where rare British breeding species were concerned, and as a good soldier and disciplinarian Sparrow was very downright in the few cases which called for condemnation. In spite of failing health he attended the last November meeting of the Society, then no longer its President. Well do I recollect his remark made some years ago at the end of a dinner, following the usual loyal toast "Those gentlemen who have not

commenced to do so, may now smoke" (absentmindedly I was one of the culprits). He married twice, and is survived by his widow, to whom all sympathy is tendered.

—W.M.C. 1954. Obituaries. *The Oologist's Record* 1954(March): 9-11.

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POLLINATION OF SOME TROPICAL PLANT SPECIES BY NECTARINIIDAE AND ZOSTEROPIDAE IN ANDHRA PRADESH, INDIA

ALURI JACOB SOLOMON RAJU[1]

Abstract

Anisomeles malabarica, *A. indica*, *Acanthus ilicifolius*, *Bruguiera gymnorrhiza* and *Leonotis nepetiifolia* occurring in different habitats of Andhra Pradesh have been observed for their floral biology. The floral biology of the first three species exhibits partial ornithophily while the other two species exhibit typical ornithophily. The flowers of these species were foraged and pollinated by sunbirds and in case of *B. gymnorrhiza* also by white-eyes. The study concludes that there is a mutualistic interaction between both partners for accomplishing their tasks.

Introduction

In America, Asia and Africa, in the warmer regions, pollination by birds is common. The pollinating birds in America are mostly hummingbirds (Trochilidae). In Asia and Africa, they belong to other families, among which the sunbirds (Nectariniidae) and white-eyes (Zosteropidae) are most important (van der Pijl 1937). Members of the Nectariniidae are widely distributed in the warmer parts of the Old World with the largest concentration in tropical Africa. Of the different genera in this family, *Nectarinia* is the largest and most widely found in the tropical world (Aluri 1998). Sunbirds' feeding on various species of Leonotis in Africa has been reported by Vos *et al* (1994). Gill and Conway (1979) report that certain sunbird species feed and breed in association with *Leonotis*.

In Java, where warm weather is a characteristic feature, sunbirds and white-eyes have been found to forage and pollinate a number of unrelated plant species (van de Pijl 1937). Subramanya and Radhamani (1993) reviewed foraging and pollination by birds in India. They documented that there are several species on which sunbirds and other birds feed and pollinate. In the present study, the foraging and pollination, by sunbirds and white-eyes, in certain plant species in Andhra Pradesh, India, are presented and discussed in the light of similar previous studies made by different workers in India and elsewhere.

[1] *Address for communication*: Department of Environmental Sciences, Andhra University, Visakhapatnam 530003.

Materials and Methods

The study material was composed of *Anisomeles malabarica, A. indica, Acanthus ilicifolius, Bruguiera gymnorrhiza* and *Leonotis nepetiifolia*. The first three species were studied in their habitats in Turimella (15°10'N, 18°45'E) and the third was examined in Visakhapatnam (17°42'N, 82°18'E). The last two were studied in estuarine and adjoining habitats at Coringa, Kakinada (16°57'N, 82°14'E). All these places are in Andhra Pradesh state, India. The flowering period, flowering phenology, morphology and relative orientation of floral parts were keenly observed. The birds and also the insects visiting these plant species were observed and identified. Bird visitors were identified with the help of Ali (1996). The foraging behaviour of birds was observed through a binocular. Additionally, the territorial behaviour of birds was also observed in order to assess the reliability of a flowering plant species as a potential food source. The floral aspects and foraging behaviour of birds were judged from the viewpoint of mutual benefits for both partners.

Observations

Anisomeles malabarica flowers during July-January while *A. indica* during October-January. Both are perennial shrubs. The flower details of the two *Anisomeles* species are almost similar to each other and hence the following description relates to both species. The purple and fragrant flowers are borne in verticals and arranged in rings. The flowers are distinctly bilabiate and contain a good amount of nectar. The nectar is protected from unwelcome foragers by a ring of hairs from the base of the flower tube. The anthers, which dehisce prior to anthesis, are oriented downward at the upper part of the corolla. The bilobed stigma protrudes little beyond the anthers. The spreading lower part of the corolla acts as landing place for the insect foragers. New *Anisomeles* flowers open daily by early morning. They are foraged by the sunbirds, *Nectarinia asiatica* and *N. zeylonica* along with a variety of insects. Of these, sunbirds and carpenter bees (*Xylocopa* sp.) play an important role in effecting pollination. Both forage for nectar only. While foraging for the hidden nectar through the protective ring of floral hairs sunbirds come in contact with the bilobed receptive stigma and the dehisced anthers of the flowers. The sunbirds use flowering *Anisomeles* as feeding station throughout the rainy and winter season. They exhibit territoriality in order to chase away intruding insects from foraging on *Anisomeles* flowers.

Leonotis nepetiifolia, an annual herb, blooms during October-January. Its flowers are orange-scarlet and bilabiate with well-developed upper lip and poorly developed tri-partite glabrous lower lip. Hairy filaments hold the stamens together and the stigma with unequally divided lobes lies just below the anthers; the upper lip covers both sex organs. The flowers secrete a large amount of nectar and often overflowing with it. The sunbirds, *Nectarinia asiatica* and *N. zeylonica* are almost exclusive foragers of *Leonotis* flowers.

They employ legitimate and illegitimate approaches for sucking floral nectar. In the former, they probe the flowers from below and in so doing the bill of the sunbirds contacts with the stigma and anthers as it penetrates into the floral tube for nectar; in effect it results in pollination. In the latter case, the sunbirds slit or depress the middle portion of the corolla from above with their bill bypassing the pollination apparatus without damaging the essential floral parts; this does not effect pollination. Sunbirds feed on *Leonotis* throughout its flowering period.

Acanthus ilicifolius, a perennial shrub, bears large blue nectariferous flowers during summer. The flowers contain a cartilaginous corolla tube with a three-lipped lobe, which acts as a landing base for the forager. The upper lip shelters the stamens and stigma. The staminal filaments hold the sterile and fertile anther locules together with fringed hairs in such a way that they are kept firmly closed. The nectar located at the corolla base is accessible only to the foragers that are capable of separating the staminal filaments. The new open flowers are available daily by morning and are foraged largely by sunbirds and carpenter bees. Sunbirds exhibit fidelity by foraging on *Acanthus* flowers as long as they are available. They probe the flowers for nectar and in effect the anthers and staminal filaments get separated. When this happens, pollination takes place. With the departure of the probing bird, the male organs close again and the floral nectar becomes inaccessible to other foragers. This way the floral pollination apparatus is closely adapted to probing by legitimate foragers which effect pollination. The carpenter bees are also equally efficient in unlocking the sex organs and effecting pollination. The sunbirds by their fidelity to *Acanthus* seem to use it as a reliable food source during summer.

Bruguiera gymnorrhiza is a tree species and flowers during summer. The flowers, with red sepals and brown petals, contrast strikingly against the foliage and hence attract foragers. The stamens are positioned in two rows. Each petal functions as a pouch enclosing two stamens. In the mature bud, the filaments are straight and later elongate and curve in a characteristic manner. The anthers, with curved filaments, develop tension and push against the enclosing petal. This results in flower expansion. The stamens dehisce shortly before the flower opens. At flower opening, the sepals diverge presenting the closed, erect petals in the "cocked" position. When the flowers are in this position and triggered by the pollinating agent, the petal margins unzip instantaneously and fly apart, releasing the stamens, which catapult the loose pollen toward the center of the flower. Each petal behaves independently so that multiple visits are possible and individual flowers with closed and open petals occur. Untriggered petals retain their tension for up to 10 days, and may abscise without ever opening. Copious nectar accumulates in the deep calyx cup and is retained by the petal base and its associated setose hairs. In the unvisited flowers nectar overflows onto the petals and becomes viscous by evaporation and inhibits the explosive floral mechanism.

The flowers are regularly tripped and foraged by birds of *Nectarinia asiatica*, *N. zeylonica* and *Zosterops palpebrosa* for nectar. The birds perch on the stout branches and trip the floral mechanism releasing clouds of pollen, without being disturbed by the tripping. In effect, pollination takes place. *Bruguiera* serves as an important nectar source for the birds, particularly for *Z. palpebrosa*.

Discussion

The plant species studied occur in different habitats and flower at different times of the year. Examination of the floral features shows that the flowers of *Leonotis nepetifolia* exhibit typical bird-pollination syndrome. This species and also all allied species in the genus *Leonotis* have been reported to be sunbird-pollinated in Africa (Vos et al. 1994). Ornithophilous flowers are characterized by the floral characters such as protection against damage that might be done by a bird probing into the floral chamber with its sharp-pointed bill, refusal of the welcome mat to the unbidden guests, hexose-rich nectar, etc. *Bruguiera* flowers stay n cocked position when mature and when tripped by sunbirds and white-eyes, explode and the petal margins unzipped instantaneously. Such a floral structure and function suggests that its flowers, with copious amount of nectar, are adapted for tripping by birds. Bird-tripping in this species is not a local adaptation. It has also been shown to be pollinated by honeyeaters of *Meliphaga gracilis* and *Myzomela obscura* in Papua New Guinea and Australasia (Tomlinson et al. 1979) and by large bees and sunbirds in South Africa (Davey 1975). Further, Similar bird-tripping has also been reported in the large-flowered explosive flowers of *B. sexangula* and *B. exaristata*. (Tomlinson, et al. 1979). It appears that explosive mechanism and bird-tripping are frequent in the genus *Bruguiera*. However, the explosive flowers are not unique only to this genus or its family Rhizophoraceae but also found in several plant families (Aluri and Subba Reddi 1995; 1996).

Anisomeles and *Acanthus* flowers, with spacious landing place for the flower-visitors, with concentrated nectar, are not tailored for probing by birds. Further, the bird-flowers are said to be red in colour (Raven 1972). On the contrary, the flowers of these two genera are purple to blue and foraged by birds on a regular basis along with insects, and the birds assume prominent role in the pollination. The interaction between the flowers of the species studied in these genera benefits both partners. Although they are not the right choice for the birds, the birds use their flowers by exhibiting territoriality. This foraging behaviour explains the preference given by the sunbirds for obtaining food. The floral mechanism found in *Acanthus* species studied is not unique but also found in *A. longifolium* and *A. mollis* (Schremmer 1960). The floral mechanism found in this species may be a characteristic of the genus.

The interactions between the flowers of plant species studied and the sunbirds and white-eyes appear to be mutualistic in nature as both partners are

benefited. The plant, for pollination or reproductive output and, the bird for food.

The present study adds *Acanthus*, *Anisomeles*, *Bruguiera* and *Leonotis* to the list of bird-pollinated plant species. Subramanya and Radhamani (1993) presented a review of pollination by birds. In this review, they listed out the plant species frequented by birds including sunbirds and white-eyes. However, the details regarding their role in pollination have not been documented. In their list, only *Leonotis nepetiifolia* was included of those under the present study. The present study shows that the plant species studied are adapted to pollination by sunbirds and *Bruguiera gymnorrhiza* in particular by white-eyes. The sunbirds can potentially utilize these plant species as a substantial food source. The white-eyes appear to be specialists and hence cannot utilise the available plant species for their food source when their right blossoms are not available.

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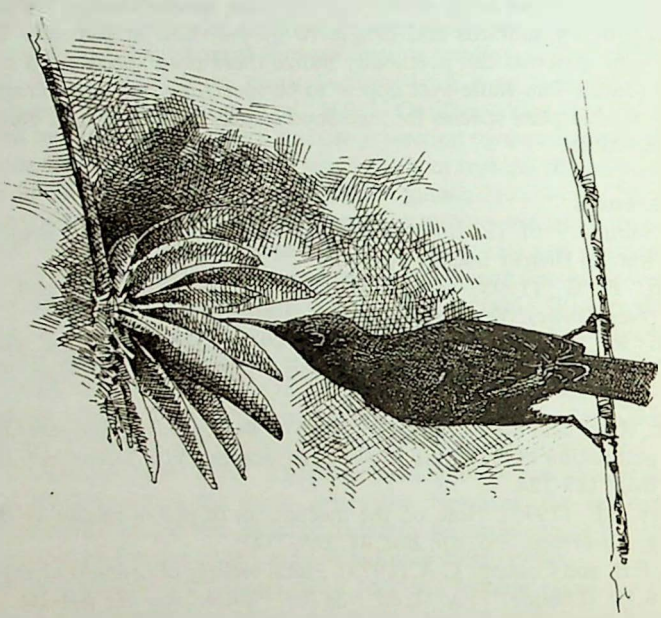


MISCELLANEOUS NOTES

Encounter With Brown Fish Owls *Bubo zeylonensis* at Rishi Valley, Chittoor District, Andhra Pradesh

The house was a new construction. The place where this house stood was till a few months ago the goal post of a hockey field. Rishi valley, amidst dismay from a lot of its residents had just concluded building two houses, Krishna and Cauvery at the southern end of the hockey field. Cauvery House stood next to the eastern boundary of Rishi Valley. A variety of trees separated the house on its eastern side from the cave rock hill, and tall Eucalyptus trees separated it from Alamanda House. It was July, and the monsoon active. On the night of second July, there was a heavy downpour as I was preparing to go to bed. I peeped into the middle garden that separated my house from the boys' living quarters and saw that two large puddles had formed. There was not much of a garden as I had moved in only a fortnight ago. The boys were fast asleep, oblivious of the rain. I too turned in.

Some sound woke me. I wondered about the sound. I checked the clock; it was half past three. Hoping to check that all was well with the boys I peeped out of my window, and met with a sight I would not wish to have missed for all the sleep that night. Sitting on the roof of the middle garden was a large owl. As I had been observing large owls for the last two years and studying amongst other things their breeding habits, I immediately recognized this one as the Brown Fish Owl, *Bubo zeylonensis*. What was it doing in the middle garden, was the question that sprang to my mind; and the answer also seemed obvious. With the tall Eucalyptus trees behind the house and vacant space of land till a year ago, this must have been a hunting ground for the bird. Now with the rains, the accumulated water must have attracted the bird. I expected it to look around for suitable prey and then fly off. However what happened next was quite unexpected and new in my experience of owl watching.

As I watched, the owl flew down from the roof to the ground. It then hopped back and forth and finally hopped into the puddle. It then squatted very low on the ground, for the puddle of water was quite shallow, and began to splash about. Its activities in water can only be described as playing. It went round and round in the water, splashing about like an excited child in a village pond. As it splashed about it was also seen searching for something in the mud. Then it opened one of its wings and splash water on to it with the other; (this it did by literally pushing water on the wings) these activities went on for about five minutes. Then it flew to the roof, and began to preen itself thoroughly. When it appeared to be satisfied with this activity, it fluttered (vibrated) its wings in the air as if to dry them. I thought it was preparing to fly off.

I was wrong. It once again came down to the puddle, and began repeating the activity. Of particular interest was the way it kept directing water, from the puddle, with the help of feathers of its left wing, on to its out-stretched right wing. As I watched fascinated by its puddling activities, it called. This was no regular call of *B. zeylonensis* with which I am familiar. The sound reminded me of the call of owl chicks. In March when I had sat observing the chicks in their nest, I heard them call like this several times. Now into July, was this still one of the juvenile owl? Was this a young one from this year's brood? Its activities in the puddle definitely had the signature of playful behavior. I very clearly saw all the features to confirm that it was a Brown fish Owl; but I could not say conclusively whether it was an adult or a young bird.

Back to the owl in the puddle. It finished its bath, flew to the roof and began preening, occasionally calling out. It then flew south into the trees, leaving me with a whole lot of questions. As I lay pondering over them, I heard the distinctive call of the fish owl. Nearly fifteen minutes had elapsed after its flight and I had assumed that the encounter for the night was over. But it wasn't. The call was coming from the western side where Rishi Valley estate manager, Mr. Naidu's house is located. There are taller trees all around his house, and I know from past experience that the fish owl was a regular visitor there.

Unable to sleep, I concentrated. Soon I heard an answering call. I got up once again and went to the window; this time the opposite on that looked away towards Krishna House. Sitting on top of Krishna House was the owl again. As I continued to watch it, another owl flew and perched atop the electricity pole between the two houses. It started calling, surprising me again. It did not sound like an owl but more like a Pariah Kite *Milvus migrans*. There was not the usual echoing boom, but squeakiness to the call. However an answering call came from the direction of Mr. Naidu's house. Atop Krishna House the bird was silent. Were there three owls? Was I mistaken about the direction of the earlier call?

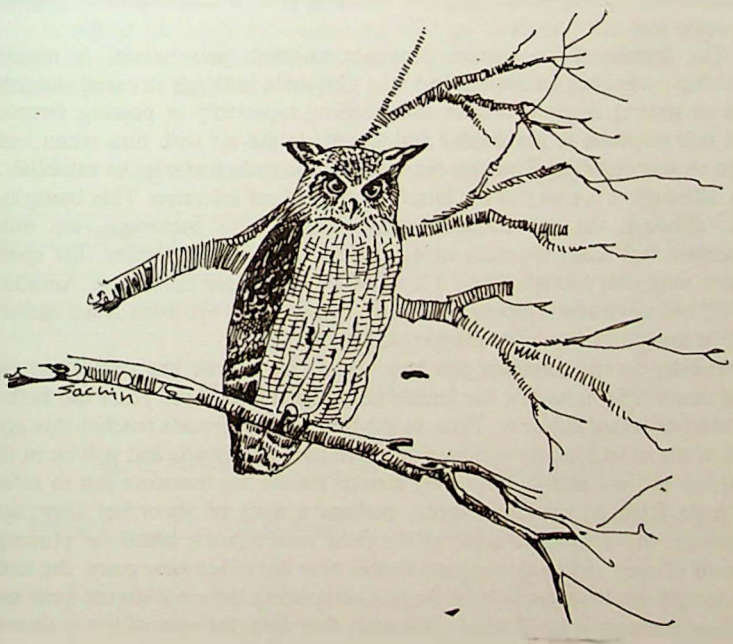
My doubts were soon cleared. The owl from Krishna House suddenly took off and landed on the roof of my house. The activities that followed, I could understand only from sounds; understand would be presumptuous, confusion would be a better word. While the conversational calls between the owl on the pole and owl above Mr. Naidu's house continued, and were unmistakably distinct, the one on top of my roof, it seemed, was perhaps continuing its playful behavior. It seemed to be moving stones. I could hear very clearly the rolling of stones on my roof. In the stillness of the early morning these sounds were distinct, clear and unmistakable. After playing with stones I heard it move from the roof of my bedroom to that of my sitting room. It did not call. Suddenly I heard the sound of a stone being dropped. Perhaps I should have stepped out of the house for clearer observation; several

times I contemplated doing so, but each time gave it up, as I did not wish to disturb the owls. I was well hidden from them.

The stone, which I retrieved in the morning, was a medium size one. What was it doing with the stone? There was only one. Why did it carry it and then drop it over my roof? This is one more of the many intriguing questions I have as I have observed these owls over a period. However the nightly activities or correctly the early morning activities concluded without any further quixotic behavior. The two owls continued their conversation, while the third one sat on the roof. I left them at this juncture to catch up with my sleep wondering what the next night would be like.

The next night I heard the squeaky call coming from Mr. Naidu's house around 10 pm. But beyond that there was nothing. When unable to sleep at night, or on rainy nights I have often sat waiting for the owl to return. But it hasn't. The whole episode confirmed one thing though; that of the two chicks hatched in January, one survived; or else it must have been the young one of the brood from the earlier year. Whichever year it was born, it had survived. The brown fish owl had a safe home in the valley.

GEETA IYER
17, First Floor, Vaigai Street, Leela Colony, East Tambaram, Chennai 600059



Discussion On Breeding of Raptors With Relation To Eye Colour

Newton & Marquiss (1982) record that since the eye-colour of an adult male Sparrowhawk is of a dark red colour, this may be a way (of selection) that enables the female to select an adult male and thus ensure that the offspring have a better chance of survival. This is on the assumption that an adult and experienced male will be better able to provide food for hungry chicks. In this context I would like to put forward some points and comments relating to the above theory.

It has been authentically recorded (by several people) that birds of prey mate for life. In my own experience with the Indian Shikra (*Accipiter badius*). I have found this to be a fact. Thus in an already established pair, eye-colour can have little bearing (if any) on the breeding selection. Since the female will not drop her original mate the question of selecting and searching for a new mate does not arise and so the colour of the eyes in the selection of an ideal mate may not fit into this case.

If however, we assume that a female has just reached breeding age, or has accidentally or other wise, lost her mate and is searching for a new one before the onset of the breeding season, then this eye colour with relation to pair selection may well become important. However even in this case there appears to e some reason for doubt.

The female of the species does not establish pair bonds. A normal courtship cycle goes something like this: The male indulges in aerial displays such as soaring at great heights and stooping repeatedly at passing females until one responds to his display and mounts in the air with him when both begin to soar together. Thus we see that it is the male that tries to establish a pair, although it is true that the female does the final selection. This being the case, although the eye colour relation seems to be important, we must remember that when the male dives at the female during display, his speed [which may well average about a hundred miles an hour (Brown & Amadon, 1989)] will not allow a proper look at the colour of his eye even if we assume that the female can see them properly in the first place.

Hawks do not establish pair bonds until the female has completed her third moult. That is to say, the female has to be at least three years old before she reaches sexual maturity. Thus, by the time a `new` female reaches this age, most of the older females will have renewed their pair bonds and will be in the company of their mates. The newly arrived female has therefore got to select her mate from an immature batch, perhaps a male of about her own age. Moreover, my own experience in the field with raptors, based on plumage patterns (Taher, in press), suggests that in nine out of ten new pairs, the male and female are both juvenile birds, just completing their adolescent year and reaching maturity. (See Table I.) Naturally therefore, the eyes of the male will not have acquired their full `red` colour yet.

TABLE I

Table showing age (in years) of hawks that have formed a new pair

Number	Year of pairing	Age of female	Age of male
1	1986 (April)	3	2½
2	1987 (May)	3½	3
3	1988 (April)	3	4
4	1989 (June)	4	3½
5	1990 (March)	3	3
(Male hawks acquire red eyes only after their fifth year)			

If however, an old pair-bond has been accidentally broken, the female will immediately respond to a display flight of a male and will thus take him for a mate. Now display flights of males are mostly performed by young birds that are on the lookout for their first (life) mate (see Table II). So it is reasonable to expect that a female who is looking for a mate will be forced to mate with a young male. It has been recorded by several authors (Osman, 1983 Rishad Naoroji 1985) that the male is generally some years younger than the female in unbalanced pairs. In nine out of ten cases, the male of such a pair is just coming into his first breeding year and is an immature bird that has not yet fully acquired his adult eye-colour. In view of this fact, here also the eye-colour as related to pair selection seems to be come unimportant with no adequate proof of the theory working (see Table III).

TABLE II

Age of males (in years) observed displaying in flight

Number	Flight period (month)	Age of male
1	February	3
2	March	2½
3	April	3
4	March	4
5	May	3½

TABLE III

Age of male and female in the unbalanced pairs observed.

Number	Age of male	Age of female	Difference
1	3	5	2
2	2½	4½	2
3	3½	5	1½
4	4	6	2

5	3	5	2
(This table seems to indicate that in unbalanced pairs, 2 years seems to be the average difference between the male and female birds.)			

One other fact that has been noticed by me and documented by others is that since the task of sitting on the eggs and of brooding the young falls on the female, she has to be constantly supplied with food by her mate. Although in such cases an old and experienced mate would appear to be more useful and capable of this task, yet such is not often the case. My own experience in Falconry has shown that young hawks are far more active and show greater speed and agility than older adult birds. So if a female has to select a new mate sometime near the beginning of the breeding season, she will try to choose a young bird which, being swifter and more active, will be better able to provide the brooding female with food. Such a relation is seen in many other species of birds and animals and not just hawks.

Being a practicing falconer with much experience in training hawks of many species, (including *Accipiter nisus*), and also being a keen observer of nesting raptors of all species, most of the points that I have made above are based on my own observations in the field. However, I have had more experience with the Indian species of hawks, such as the Shikra (*Accipiter badius*) and the Besra Sparrowhawk (*Accipiter gularis*), than with the European Sparrowhawk (*Accipiter nisus*). It may be that the breeding cycle of the latter species is different from that of the Shikra or the Besra, and pair selection may be different from that of the Indian species.

I would like to urge the birding community to try and gather similar data on nesting raptors, with particular emphasis to the eye-colour in both birds, in particular the iris colour of the male. If such findings are reported they may very well lay a foundation for either confirming (proving) or disproving the theory that has been advanced by Newton and Marquiss (1982) that the eye colour of the male Sparrowhawk may have a direct relation with pair bonds and natural selection of a mate.

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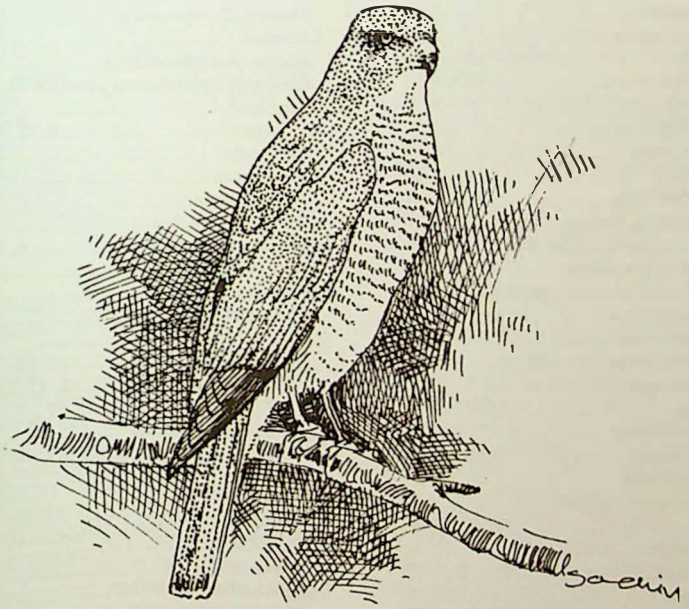
Humayun Taher
2-B Atlas Apartments, Road No. 10, Banjara Hills, Hyderabad 500034



INDEX

Words in capitals do not signify anything special. The following abbreviations are listed in the Index below and stand for the respective states. AP=Andhra Pradesh; MH=Maharashtra; KA=Karnataka; KE=Kerala; TN=Tamil Nadu

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Our Logo: Indian Pitta *Pitta brachyura*

The word PITTA has come into Ornithology from the Telugu *pitta*, [small bird, (in the native tongue of the people of Andhra Pradesh state, India)], latinized by Vieillot in 1816, as the name of a Genus, and since adopted by English ornithologists as the general name for a group of birds, remarkable for their great beauty. In Ornithology, the word is first found as part of the native name *ponnunky pitta* given in 1713 by Petiver, in the "mantissa" to John Ray's SYNOPSIS, on the authority of one Edward Buckley of Fort St. George, Madras city. This bird is the *Pitta bengalensis* (now *P. brachyura*) of modern ornithologists.

[*Encyclopaedia Britannica*, 11th edition, 1911]